

AUTHOR INDEX

A

Albersberg, W. J., 241
 Abbattesta, F., 336, 338
 Abe, T., 268
 Abeis, J. C., 199
 Abitz, N., 72
 Abragam, A., 159, 265
 Abraham, B. M., 337
 Abricosova, I. I., 197
 Ackerman, J. B., 246
 Ackermann, R. J., 275, 363, 368, 369, 370, 372
 Adam, F. C., 268
 Adams, E. Q., 361
 Adams, G. B., 247
 Adams, J. Q., 359
 Adda, Y., 113, 114, 115
 Addy, J., 142
 Adrian, F. J., 158
 Agar, J. N., 175, 186
 Agarwal, H. P., 235
 Ahlers, W. C., 271
 Aihara, A., 340, 341
 Alakazyan, E. A., 237, 243
 Åkerlind, L., 257
 Akers, L. K., 43
 Akimchenko, I. P., 117
 Akishin, P. A., 335, 362, 365, 371
 Akopyan, A. U., 244
 Alapina, A. V., 342
 Albrecht, A. C., 260, 268, 269
 Alcock, C. B., 336, 361, 363, 370
 Alcock, T. C., 71
 Alder, B. J., 195-221; 84, 85, 86, 93, 97, 212
 Alfred, A. T., 335, 363
 Aleksandrov, I. V., 154, 211
 Aleksandrova, L. S., 383
 Alekseev, N. V., 216
 Alekseeva, V. T., 268, 273
 Alexander, C., 363, 369, 370
 Alexander, S., 151
 Alfani, S., 357
 Alfred, L. C. R., 115
 Alger, R. S., 396
 Allen, A. O., 400, 401, 402, 403
 Allen, H. C., Jr., 287
 Allen, J. W., 118
 Allen, L. C., 255
 Allen, P. L., 241
 Allen, R., 360
 Allin, E. J., 299
 Allinger, N. L., 339, 341, 343

Allnatt, A. A., 119
 Allred, A. L., 154
 Almodovar, L., 43
 Al'perovich, M. A., 269
 Altman, R. L., 334, 335, 370
 Altovski, R. M., 247
 Altschuler, Z. S., 40
 Ambrose, D., 340, 341, 342
 Ambrose, E. J., 438, 439
 Ameer, G., 203
 Amerlinckx, S., 121
 Amlie, R. F., 244, 246
 Amme, R. C., 202
 Amphlett, C. B., 384
 Anderson, F. A., 433
 Anderson, A. G., Jr., 269
 Anderson, D. H., 162, 166
 Anderson, E. C., 36
 Anderson, E. W., 57, 66
 Anderson, J. S., 124, 371
 Anderson, L. C., 61
 Anderson, L. W., 289
 Anderson, M. E., 166
 Anderson, M. M., 154
 Andersson, S., 371
 Ando, N., 269, 271
 Andreeva, N. V., 371
 Andreu, J. L., 113
 Andrew, E. R., 49, 50
 Andrews, R. P., 52
 Andrinovskaya, T. L., 335
 Androes, G. M., 153
 Anet, F. A. L., 152, 421
 Anfinsen, C. B., 456
 Anno, T., 266, 267, 307
 Anslow, G. A., 33
 Antropov, L. I., 229
 Aono, S., 160
 Applequist, J., 441, 443, 450
 Arai, S., 428
 Araki, G., 310
 Araki, H., 310
 Aranow, R. H., 206
 Archer, G., 10
 Artya, S. M., 336
 Armstrong, G. T., 331, 333, 342
 Arnikar, H. J., 185
 Arnold, H., 217
 Arnold, J. R., 31, 35, 36
 Arnold, K., 246
 Arnon, R., 437, 438
 Arons, A. B., 30
 Aronson, J. R., 296
 Aronsson, B., 356, 372
 Arotsky, J., 188
 Arrhenius, G., 31, 39, 40, 42, 43
 Arzhanov, A. S., 335
 Asada, K., 230, 232
 Asai, S., 129, 131
 Asbrink, S., 371
 Ascoli, A., 114
 Asdente, M., 114
 Ashmore, P. G., 425
 Aslanian, V. M., 207
 Åsperger, S., 19
 Assur, A., 30
 Aston, J. G., 83, 144, 154, 332, 333
 Aten, A. C., 241
 Atherton, N. M., 155, 156, 157
 Atkins, W. R. G., 33
 Atkinson, G., 180, 185
 Aub, M. R., 197
 Ault, W., 38
 Ausloos, P., 420
 Austin, K. H., 34
 Aven, M., 123
 Averbach, B. L., 361
 Averbukh, B. D., 371
 Avgul, N. N., 343
 Avramenko, L. I., 417
 Axe, J. D., 163
 Axenov, V. I., 230
 Axtman, R. C., 182
 Axworthy, A. E., 417
 Ayabe, Y., 238
 Azzam, A. M., 184

B

Baas-Becking, L. G. M., 33
 Baba, H., 266, 313
 Babloyantz, A., 219
 Babrov, H., 203
 Baccaredda, M., 64
 Baccella, G. L., 114
 Back, M. H., 423
 Back, R. A., 416, 428
 Bäckström, H. L. J., 270
 Bacon, K., 230
 Bader, R. F. W., 3, 421
 Badley, J. H., 332
 Baertschi, P., 219
 Baev, A. K., 339
 Bagdasar'yam, Kh. S., 399
 Bagotskaja, I. A., 242
 Bailey, K., 451
 Bailey, N., 275
 Baird, J. C., Jr., 289
 Bak, T. A., 186
 Bakon, K., 76
 Balaban, A. T., 269
 Balandin, A. A., 130, 342

AUTHOR INDEX

Balasubramanian, A., 8, 272
 Baldwin, H. W., 182
 Baldwin, R. L., 220
 Baldwin, W. H., 177, 185
 Balivit, J. S., 158
 Ball, J. S., 342
 Ball, W. E., 425
 Ballard, D. G. H., 436, 437, 443, 444
 Ballester, M., 269
 Ballhausen, C. J., 263, 265, 273
 Ballik, E. A., 256, 358
 Baluffi, R. W., 108
 Bamford, C. H., 433, 434, 435, 436, 437, 438, 440, 443, 444
 Bán, M. I., 273
 Banks, E., 274
 Bannell, C., 151
 Banthorpe, D. V., 19, 20
 Banwell, C. N., 290
 Bapat, R. N., 267
 Bär, F., 266, 310, 311
 Baranov, V. I., 43
 Barau, A. K., 202
 Barb, W. G., 51, 52
 Barbanell, U. A., 336
 Barberá, M. C., 341
 Barclay, R. K., 70
 Bardeleben, J., 241
 Bar-Eli, A., 438
 Barker, C. C., 269
 Barker, G. C., 236
 Barker, J. A., 213
 Barkley, R. A., 31, 34
 Barnard, J. A., 424
 Barnes, H., 29, 33
 Barnes, J. W., 43
 Barnes, R. G., 112
 Barnes, S. C., 239
 Barnett, M. P., 294
 Barr, N. F., 402, 403
 Barr, L. W., 115
 Barrans, J., 269
 Barrer, R. M., 146, 384, 385
 Barrett, J., 276
 Barrow, G. M., 297
 Barrow, R. F., 257, 335, 363, 371
 Bartell, E. T., 242
 Bartell, L. S., 5
 Barth, C. A., 417, 426
 Barth, T. F. W., 39
 Barthomeuf, D., 144
 Bartlett, P. D., 16, 17
 Bartok, W., 404
 Bartolo, H. F., 329, 340
 Barton, J. G., 371
 Barton, J. L., 332, 338, 339
 Barton, R. J., 366
 Baru, V. E., 186
 Barvinskaya, Z. L., 271
 Basco, N., 414, 418
 Basile, L. J., 399
 Bass, S. J., 188
 Bassets, M., 72
 Bassi, I. W., 65, 67
 Bastian, B. N., 17
 Basu, S., 210, 266
 Bates, J. L., 337, 365
 Bates, R. G., 181
 Bates, T., 274
 Batt, L., 424
 Battino, R., 207
 Battiste, M., 17
 Bauer, A. A., 357
 Bauer, E., 413
 Bauer, H. H., 229
 Bauer, S. H., 333, 338, 365, 371
 Bauerle, J. E., 109
 Baughman, G., 183
 Baum, L. H., 158
 Bauman, R. F., 274
 Baumann, G., 99
 Bazhulin, P. A., 206
 Beam, J. E., 294
 Beard, A. P., 372
 Bearman, R. J., 220, 221
 Beaumont, D. W., 176
 Beaven, G. H., 276, 455
 Becconsall, J. K., 162
 Beck, A. F., 246
 Beck, F., 230, 233, 244, 245
 Becker, F., 20
 Becker, G. W., 54, 63
 Becker, J. A., 146
 Becker, K. A., 371
 Becker, M., 235
 Becker, R. R., 438
 Becker, R. S., 270
 Beckett, C. W., 99
 Bedford, A. F., 342
 Beeck, O., 135
 Beenakker, J. J. M., 200, 219, 333
 Beer, M., 439, 440
 Beevers, R. B., 54
 Begemann, F., 36
 Begun, G. M., 385
 Behrens, O. K., 433
 Beletskii, M. S., 365
 Belikova, T. P., 399
 Bell, C. L., 297
 Bell, G. M., 175
 Bell, P. H., 399
 Bell, R. P., 2, 10
 Bell, W. E., 343, 371
 Bellamy, L. J., 209
 Bellemans, A., 218, 219
 Belov, S. F., 337
 Belser, W. C., 35
 Beltrame, P., 24
 Belyaev, A. V., 335
 Belykh, L. P., 371
 Bender, M. L., 5, 24
 Benedict, W. S., 285
 Benesch, W., 203
 Benkeser, R. A., 8
 Bennett, J. M., 294
 Bennett, M. J., 124, 138
 Bennett, R. G., 258
 Benson, B. B., 38, 42
 Benson, E. E., 453
 Benson, E. S., 453
 Benson, R. E., 166
 Benson, S. W., 411, 417, 426
 Benston, M. L., 285-99
 Berezin, G. I., 343
 Berg, R. A., 358
 Berg, W. T., 340
 Berge, J. W., 53
 Berger, A., 436, 437, 445, 446, 452, 454, 455
 Beringer, F. M., 269
 Berka, L., 334
 Berka, L. H., 334
 Berkowitz, J., 338, 343, 358, 362, 369, 370, 371, 413
 Berlin, A. J., 153
 Berlin, T. H., 174
 Berliner, E., 13
 Bernardes, N., 205
 Berndt, D., 246
 Berne, E., 185, 186
 Bernheim, R. A., 152, 182
 Berns, D. S., 178, 187
 Bernstein, H. J., 290
 Bernstein, R. B., 198, 364
 Berry, R. J., 333
 Berry, R. S., 23
 Berry, R. W. H., 269
 Bersohn, R., 160
 Berthier, G., 320
 Berti, G., 269
 Berlin, H. J., Jr., 334
 Bertocci, U., 243, 246
 Berykh, L. P., 338
 Bessis, G., 260
 Besson, J., 247
 Bestul, A. B., 371
 Bethe, H. A., 390, 391
 Betts, R. L., 24
 Betz, H., 246
 Beukenkamp, J., 180
 Bewick, A., 234
 Bewley, D. K., 343
 Beyeler, M., 113
 Bhatnagar, S. S., 299
 Bhatnager, R. P., 384
 Biberman, L. M., 259
 Bicelli, L. P., 239, 243
 Bicknell, R. W., 246
 Biernat, J., 238
 Biegelisen, J., 1, 2, 4, 9, 219, 334, 414
 Bigelow, C. C., 456
 Biktimirov, R. S., 189
 Bilek, L., 437
 Bills, J. L., 335, 339
 Bircher, L. J., 215
 Bird, G. R., 439
 Bird, R. B., 289
 Birger, B. I., 426

Birintseva, T. P., 229
 Birks, J. B., 399
 Birky, M. M., 334, 338, 339
 Birrell, R. N., 419
 Birtley, W. B., 203, 289
 Bischofs, J., 74
 Bishop, C. A., 19
 Bishop, E., 151
 Bist, H. D., 275
 Bjellerup, L., 331
 Bjørnhaug, A., 65
 Black, W., 197
 Black, W. A. P., 31
 Blackburn, D. H., 371
 Blackburn, P. E., 369, 371
 Blackwell, L. A., 270
 Blades, A. T., 423
 Blades, H., 423
 Blalne, L. R., 287, 288
 Blais, N. C., 198
 Blake, P. G., 424
 Blanc, M., 335, 338, 339
 Blander, M., 186
 Blankenship, F. F., 337
 Blasius, E., 382
 Blinc, R., 154, 297, 298
 Blinder, S., 158
 Block, B. P., 180
 Bloembergen, N., 49
 Blomgren, G. E., 159, 355
 Bloom, S. M., 439
 Bloomer, O. T., 330
 Blout, E. R., 433, 435, 436,
 437, 439, 440, 441, 442,
 443, 444, 445, 447, 450,
 454
 Blue, G. D., 371
 Blum, H., 165, 371
 Blum, A. N., 361
 Blumberg, W. E., 155
 Blumenfeld, O. O., 456
 Blythe, A. R., 207
 Blyushtein, M. L., 371
 Boato, G., 37
 Bobalek, E. G., 57
 Bockhoff, F. J., 334
 Bockris, J. O'M., 231, 238,
 239, 243, 245, 332, 338,
 339, 355
 Boddy, P. J., 419, 422
 Bodo, G., 433, 453
 Boedtke, H., 451
 Boerboom, A. J. H., 370
 Boerdijk, A. H., 359
 Bogdanovskii, G. A., 242
 Boggs, E. M., 84
 Boggus, J. D., 270
 Bogoliubov, N., 88
 Bohak, Z., 443
 Bohm, D., 398
 Bohn, L., 64
 Bohnenkamp, K., 228
 Bohr, N., 390
 Böld, W., 243
 Bolling, G. F., 334
 Bolotnikova, T. N.,
 267

Bol'shakova, G. A., 338
 Boltaks, B. I., 118
 Bolton, R., 21
 Bonart, R., 68, 69, 70
 Bond, G. C., 142
 Bondi, A., 330
 Bonhoeffer, K. F., 240
 Bonilla, C. F., 338
 Bonnemay, M., 186
 Bonner, O. D., 176, 180,
 383
 Bonnet, M., 272, 306
 Borčić, S., 15
 Bordwell, F. G., 18
 Borelius, G., 109
 Boreskov, G. K., 136
 Borisoglebskii, V. P., 333
 Borisov, E. A., 337, 371
 Born, M., 69, 93
 Bornkessel, K., 337
 Borsdorf, R., 269
 Bort, D. N., 67
 Bortner, M. H., 426
 Bosmäcker, D., 158
 Bothner-By, A. A., 211
 Bottomley, G. A., 199
 Boudart, M., 133, 135,
 140, 147, 426
 Boueke, K., 67
 Boulton, A. J., 269
 Bourns, A. N., 1-24; 1, 2
 Bovey, F. A., 155, 271,
 456
 Bowen, E. J., 270
 Bowen, H. J. M., 33
 Bowen, V. T., 36, 41
 Bower, V. E., 181
 Bowers, D. L., 174
 Bowers, W. A., 158
 Bowles, R., 427
 Bowman, H. E., 185
 Bowman, M. G., 372
 Boyd, C. M., 186
 Boyd, F. R., 335
 Boyd, G. E., 383
 Boyd, R. H., 11, 56, 57,
 58, 77
 Boyer, F. L., 215
 Boyer, P. D., 433
 Boyer, S., 273
 Boyle, J. W., 401
 Boys, S. F., 198
 Brackett, T. E., 335
 Bradbury, E. M., 439, 443
 Bradbury, J. H., 440, 441
 Bradley, D. C., 343
 Bradley, R. C., 114
 Bradley, R. S., 342
 Bradshaw, F. J., 108, 114
 Bradshaw, W. G., 372
 Brady, A. P., 336
 Brady, G. W., 181, 216
 Bragg, J. K., 449, 450
 Brainina, K. Z., 238
 Brammer, W. G., 119
 Brand, J. C. D., 13
 Brandhorst, W., 42

Brandt, L. W., 333, 334
 Brandt, W., 390
 Brannon, H. R., 36
 Branson, H. R., 433, 434
 Bratoz, S., 260
 Brattain, W. H., 232, 233,
 244, 245
 Braun, D., 74
 Bray, A. R., 246
 Brdička, R., 235
 Bredig, M. A., 338, 339
 Breiter, M., 229, 231, 243
 Brenden, B. B., 365
 Brennan, D., 146, 343
 Breschke, W., 71
 Bresler, S. E., 385
 Breuer, H., 59, 60
 Brewer, L., 336, 355, 356,
 357, 359, 371
 Breyer, A. C., 385
 Breyer, B., 229
 Březina, M., 242
 Brickwedde, F. G., 328
 Bridgman, P. W., 329
 Briegleb, G., 271
 Brière, G., 186
 Briggs, A. A., 271
 Briggs, T., 334
 Bright, N. F. H., 357
 Brill, R., 65, 68
 Brim, W. W., 286
 Brinen, J. S., 307
 Brinkley, S. R., Jr., 97,
 213
 Brinton, R. K., 420
 Brion, H., 255
 Brisi, C., 336, 338
 Briske, C., 333
 Britt, J. A., 211, 271
 Britton, D., 100, 415
 Broadale, G. E., 335
 Brocklehurst, P., 269
 Brockmann, R., 436
 Brodersen, S., 288
 Brodin, M. S., 268
 Brodowsky, H., 228
 Brodskii, A. M., 2
 Broecker, W., 43
 Broecker, W. S., 35, 36
 Broida, H. P., 259, 261,
 274, 418
 Bromer, W. W., 433
 Bromley, D. A., 259
 Bromley, L. A., 371
 Bross, H., 111
 Broude, V. L., 273
 Broady, R. M., 245
 Brounshtein, B. I., 333,
 358
 Brower, F. H., 51
 Brown, A. M., 178
 Brown, B. F., 334
 Brown, D. E., 288
 Brown, F. H., 399
 Brown, G. H., 341
 Brown, H. C., 7, 12, 14
 Brown, I., 341

AUTHOR INDEX

Brown, J., 427
 Brown, L., 439, 443
 Brown, R. D., 12, 185,
 266, 305, 306, 307, 313,
 318, 319
 Brown, R. M., 36
 Brown, T. H., 166, 182
 Brown, W. B., 90, 93, 204
 Browne, C. C., 329, 340,
 341
 Brownstein, S., 184
 Broyles, A. A., 93, 215
 Brubaker, C. H., Jr., 176,
 185
 Brück, D., 230
 Bruck, P., 17
 Bruckenstein, S., 180
 Brulice, T. C., 24
 Brunauer, S., 133
 Bruns, B. P., 382, 384
 Brusov, I. L., 342
 Bruyants, A., 269
 Bryan, S. E., 184
 Bryan, W. P., 454
 Bryant, W. M. D., 71
 Bryce, W. A., 426
 Buben, N., 158
 Bublik, A. I., 216
 Bublitz, D. E., 182
 Bubnov, N., 159
 Buck, W. L., 399
 Buckingham, A. D., 152,
 206, 209, 211
 Buckles, R. E., 210
 Budevski, E., 239, 241
 Budov, G. M., 237, 238
 Bueso-Sanlehi, F., 261,
 262
 Buff, F. P., 95, 411
 Bulanin, M. O., 208
 Bulatova, R. F., 219
 Buncel, E., 1-24; 1
 Bune, N. J., 246
 Bunker, D. L., 90, 413
 Bunn, C. W., 63, 65, 68,
 71
 Bunnell, J. F., 10, 14, 24
 Buntar, A. G., 216
 Bunting, E. N., 290
 Bunton, C. A., 3, 11, 15
 Buraway, A., 269
 Burbank, J., 246
 Burch, P. R. J., 394, 401
 Burdese, A., 336
 Burge, D. E., 188
 Burge, R. E., 445
 Burgstahler, A. W., 18
 Burhorn, F., 100
 Burkitt, F. H., 312
 Burleigh, P. H., 67
 Burley, D. M., 86
 Burnelle, L., 260
 Burns, G., 416
 Burns, J. H., 337
 Burns, R. P., 357, 368,
 369, 370
 Burrell, E. J., 158
 Burstein, R., 240
 Burtch, F. W., 176
 Burton, J. D., 31
 Burton, M., 390, 399, 402,
 405
 Burwell, R. L., Jr., 9,
 143, 189
 Buser, W., 40
 Büthker, C., 241
 Butler, A. F., 9, 177
 Butler, A. R., 3, 4
 Butler, J. N., 412, 421
 Butta, E., 64
 Buyle, R., 436
 Byalobzheskii, A. V., 247

C

Cady, G. H., 334
 Caffrey, J. M., Jr., 400
 Cahan, B. D., 246
 Caldwell, G. L., 209
 Caldwell, W. C., 368, 371
 Callear, A. B., 426
 Callen, H. B., 327
 Callomon, J. H., 261, 262
 Calvert, J. G., 421, 427
 Calvin, M., 153, 454
 Cambeiro, M., 341
 Cameron, A. E., 38
 Camin, D. L., 346
 Camky, P., 198, 333
 Campagni, A., 23
 Campbell, A. N., 185
 Campbell, H. J., 10
 Campbell, I. E., 372
 Campbell, J. S., 139
 Canady, W. J., 177
 Canham, R. G., 181
 Canjar, L. N., 343
 Cannon, P., 140
 Carlisle, D. B., 31, 41
 Carlson, C. M., 97
 Carlson, G. L., 336, 337
 Carlson, K. D., 358, 364,
 367
 Carlson, R. O., 118
 Carpenter, L. G., 370
 Carr, S., 24
 Carrington, A., 154, 163,
 179, 275
 Carrington, T., 258
 Carriuolo, J., 24
 Carroll, P. K., 256
 Carson, A. W., 243
 Carter, R. E., 152, 371
 Cartledge, G., 246
 Castagnoli, G. C., 220
 Castaňer, J., 269
 Castlemann, L. S., 113
 Castner, T., 163
 Catalano, E., 112
 Cater, E. D., 362, 364,
 369, 371
 Cattanach, J., 424
 Čermak, V., 241, 406
 Ceska, C., 67

Cha, C. Y., 456
 Chamberlain, D. L., 357
 Chambers, T. S., 424
 Chan, S. I., 296
 Chandrasekharaiyah, M. S.,
 336, 357
 Chandross, E. A., 269
 Chang, P. C., 407
 Chang, S.-S., 340, 342,
 343
 Changfoot, J., 136
 Chao, G. Y., 209
 Chapman, S., 86
 Charles, S. W., 419, 420
 Charlesby, A., 389, 404,
 406
 Charters, P. E., 418
 Cheesman, D. F., 435
 Chemodanov, A. N., 243
 Chen, C. T., 143
 Cheng, W., 258
 Cherkasov, A. S., 269, 270
 Cherneva, Ye. P., 384
 Chernyl, V. S., 189
 Chervenka, C. H., 456
 Chesick, J. P., 413, 424
 Chestnut, D. B., 162
 Chiang, Y., 12, 13
 Chibrikov, V. M., 159, 161
 Chien, J. C. W., 152
 Chipman, J., 361
 Chisholm, J. S. R., 83
 Chmutov, K. V., 381
 Choh, S. T., 88
 Chon, H., 144, 343
 Choporov, D. Ya., 371
 Chouteau, J., 438
 Chow, T. J., 32, 33, 42,
 43
 Chowdhury, M., 210
 Christensen, A. U., 336,
 338
 Christian, J. L., 371
 Christiansen, J. A., 328
 Christman, D. R., 11
 Christov, S. G., 230, 243
 Chu, B., 383
 Chuang-Hsin, T., 229, 243
 Chufarov, G. I., 371
 Chujo, R., 50
 Chupakhin, M. S., 38
 Chupka, W. A., 338, 343,
 362, 369, 370, 371, 413
 Chzi-syan, L., 382
 Cialis, A., 273
 Ciampolini, M., 335
 Cieslicki, M. E., 372
 Cimino, A., 144
 Cinsa, W., 268
 Cipollini, E., 144
 Čížek, J., 234, 235
 Claassen, H. H., 264, 336
 Claeson, G., 153
 Clark, C. D., 120
 Clark, D., 370
 Clark, M., 244
 Clark, S. P., Jr., 338, 339

Clarke, R. S., 40
 Clauising, P., 358, 364
 Clauss, J. K., 336
 Claydon, A. P., 342
 Claytor, R. N., 338
 Clement, J. R., 328
 Clement, M. J. Y., 261, 262
 Clement, R. A., 8
 Clementi, E., 255, 260, 308, 357, 358
 Cleveland, F. F., 331, 334, 335, 341, 342
 Clinton, W. L., 290
 Clogston, A., 163
 Clough, S., 162
 Clower, E. W., 359
 Clusius, K., 219, 261, 333, 334, 339
 Coatsworth, K., 402
 Cobble, R. W., 336
 Cochran, E. L., 158
 Codegone, C., 333, 334, 335, 339, 341
 Codina, J. M., 269
 Cohen, A., 266
 Cohen, C., 451, 455
 Cohen, E. G. D., 96, 212, 213
 Cohen, L. A., 152
 Cohen, M., 246
 Cohen, M. D., 123
 Cohn, G., 143
 Cohn, M., 166
 Coke, J. L., 343
 Colapietro, J., 13
 Colburn, C. B., 334
 Cole, A. G., 331, 342
 Cole, E. A., 77
 Cole, K. S., 54
 Cole, R. H., 54, 178, 207
 Cole, T., 404
 Colin, R., 371
 Coll, H., 180
 Collier, A., 34
 Collin, R. L., 384
 Collinson, E., 401, 402, 406
 Commoner, B., 166, 167
 Companion, A. L., 255
 Conduit, C. P., 268
 Connelly, B. T., 413
 Connick, R. E., 179
 Connolly, J. F., 200, 339, 340
 Connor, T. M., 8, 9
 Conradi, J. J., 155
 Conway, B. E., 230
 Conway, J. G., 274
 Coogan, C. K., 155
 Cook, G. L., 342
 Coombes, J. D., 436, 443, 444
 Cooper, G. D., 418
 Cooper, L. H. N., 33
 Cope, A. C., 343
 Copeland, B. K. W., 424
 Coremans, J. M. J., 200
 Corey, R. B., 433, 434
 Corio, P., 151
 Cormia, R. L., 212
 Corneliusen, R. D., 110
 Cornish, R. M., 332, 339
 Corradini, P., 65, 67
 Corti, P., 269
 Corwin, N., 34
 Coryell, D., 383
 Costain, C. C., 291, 297
 Cotton, F. A., 265, 274, 335, 336, 339
 Coughlin, J. P., 356
 Coulson, C. A., 210, 303, 312, 313, 314
 Coulter, P. B., 342
 Coupron, C., 270
 Couture, L., 274
 Cowan, P. M., 434, 445, 452
 Cowey, C. B., 35
 Cowling, T. G., 86
 Cox, B., 120
 Cox, J. D., 340, 341, 342
 Cox, R. A., 30
 Cox, W. P., 51
 Craig, D. P., 266, 267, 269, 298, 304, 310
 Craig, H., 30, 36, 37
 Cram, D. J., 21
 Cramer, W., 399
 Crammer, J. L., 455
 Craven, J. M., 7, 272
 Crawford, B., Jr., 298
 Crawford, B. L., Jr., 309
 Crawford, J. E., 333
 Creac'h, P., 34
 Creeth, J. M., 180, 185
 Crick, F. H. C., 445, 452
 Crissman, J. M., 56, 57, 58
 Cristol, S. J., 21
 Crosby, G. A., 274
 Cross, P. C., 285-99; 293
 Csavinszky, P., 255
 Cubicciotti, D. D., Jr., 334, 371
 Culkin, E., 31
 Cullen, W. R., 268
 Cullis, A. F., 433
 Cummins, W. V., 121
 Cundall, R. B., 428
 Cunnell, F. A., 118
 Cunningham, R. S., 455
 Curl, H., 41
 Current, J. H., 412, 422
 Curtiss, C. F., 88, 100
 Cuypers, R., 121
 Cvetanovic, R. J., 313, 316, 417
 Czapski, G., 402
 Czekalla, J., 271

D
 Daane, A. H., 337, 368
 Dacey, J. R., 422
 Dachille, F., 123
 Dahler, J. S., 86, 87, 96, 97, 212, 213
 Dahlgren, G., Jr., 4
 Dahn, H., 9
 Dalton, F. S., 401, 402, 406
 Daisley, K. W., 35
 Dalby, F. W., 258, 261
 Dallinga, G., 313
 Dalmat, G., 129, 132
 Daly, J. W., 152
 Damask, A. C., 108, 109, 121
 Damaskin, B. B., 229
 Daniel, E., 436, 441, 443, 444, 447, 450
 Daniele, G., 271
 Dannis, L., 60, 62
 Danti, A., 325-43; 288, 296
 Danusso, F., 74
 Danyluk, S. S., 154, 189
 Darken, L. S., 356
 Darnell, A. J., 334, 337
 Darwent, B. deB., 415
 Darwish, D., 14
 Das, P. T., 152
 Das, T. P., 160
 Dasent, W. E., 189
 Datsko, V. G., 34
 Datz, S., 364
 Dau'Asta, G., 67
 Dauben, W. G., 340
 Daudel, R., 304, 313
 Daughtry, A. C., 36
 Davey, W. P., 399
 David, H. G., 339, 340
 Davidson, N., 99
 Davidson, N. R., 415
 Davies, C. W., 364
 Davies, D. A., 360
 Davies, D. R., 433
 Davies, J. T., 435
 Davies, M., 178
 Davies, M. O., 244
 Davis, G. T., 24
 Davis, H. G., 425
 Davis, H. L., 294
 Davis, J. C., 154, 211
 Davis, R. V., 384
 Davis, T. F., 357
 Davis, T. W., 401
 Davydov, A. S., 298, 398
 Dawber, J. G., 9
 Dawson, L. R., 180, 189
 Dawson, W. R., 57
 Deal, R. M., 157
 De Alti, G., 266
 Dearden, J. C., 272
 Dearman, H. H., 160, 311
 de Bethune, A. J., 186
 de Boer, E., 241
 de Boer, J., 91, 92, 216, 298

AUTHOR INDEX

de Boer, J. H., 141
 de Boer, N. H., 131, 132
 de Borde, A. H., 83
 De Bruyn Ouboter, R., 219
 Decius, J. C., 298
 Detzsi, I., 259, 260
 Defrain, A., 335
 Degenhart, H., 383
 de Gennes, P. G., 95
 De Graaff, W., 199, 333
 de Groot, M., 164
 Deguchi, Y., 159
 De Hempstine, X., 242
 de Jongh, J. G. V., 197
 De Kluiver, H., 203
 de Kowalewski, D. G., 152
 Delahay, P., 227, 229, 231, 232, 234, 235, 236, 237
 de la Mare, P. B. D., 13
 Delfs, J., 241
 De Ligny, C. L., 189
 de Loë, C., 438, 439
 De Maine, M. M., 271
 De Maine, P. A. D., 271
 DeMarcus, W. C., 358
 De Maria, G., 357, 368, 369, 370
 de Mars, G., 165
 DeNevers, N., 340, 341
 Dennison, D. M., 285, 286
 Deno, N. C., 1, 11
 DePuy, C. H., 17, 19, 21
 Derbyshire, H., 427
 Deriagin, B. V., 197
 Derkoch, J., 437
 de Roo, J. L., 371
 Deryagin, B. V., 230
 De Sorbo, W., 108
 DeSousa, J. B., 308
 Despić, A. R., 238
 Dessauer, F., 397
 Devanathan, M. A. V., 243
 Dever, D. F., 362, 368
 Dever, J. L., 338
 De Vos, J. C., 361
 de Vries, A. E., 202
 De Vries, L., 15, 17
 Dewald, J. F., 187, 228, 230, 232, 233, 245
 Dewar, M. J. S., 307, 313, 315
 Dewhurst, H. A., 404, 418
 Diamond, R. M., 184, 383
 Dianov-Klokov, V. I., 211
 Diaz Peña, M., 333, 335, 341
 Dick, R. D., 288
 Dickel, G., 383
 Dickens, P. G., 416
 Dickenson, A. D., 298
 Dickerson, R. E., 433
 Dickinson, T., 370
 Dieke, G. H., 261
 Diekötter, F. W., 246
 Dienes, G. J., 108, 120
 Diepen, G. A. M., 213
 Diesen, R. W., 412, 422
 Dietrich, G., 29
 Dietz, G., 246
 DiGiorgio, V. E., 261, 263
 Diíkov, U. V., 335
 Dills, C. E., 17
 Dills, D. H., 412, 422
 DiMarzio, E. A., 66, 450
 Dininny, R. E., 342
 Dintzis, H. M., 433, 453
 Diorio, A. F., 72, 76
 Dixon, G. H., 433
 Dixon, R. N., 257, 261, 262
 Djerassi, C., 341
 Dodsworth, P. G., 363
 Doi, J. T., 17
 Dolar, D., 382, 383
 Dole, M., 38, 67, 69, 70, 76, 77
 Donnelly, T. H., 448
 Donovan, T. M., 336, 342
 Doolittle, A. K., 332, 339
 Doolittle, D. B., 332, 339
 Dorfman, L. M., 404
 Dorfmüller, T., 273
 Dorgelo, G. J. H., 145, 146
 Dörr, F., 267, 268
 Doss, K. S., 235
 Doty, P., 436, 437, 440, 441, 442, 443, 444, 447, 450, 451, 452, 454
 Douglas, A. E., 257, 260, 261, 263
 Douglas, R. W., 274
 Douglas, T. B., 338
 Douglass, D. C., 66, 155
 Douthit, R. C., 187
 Dowden, D. A., 129
 Dowling, J. M., 288, 297, 331, 342
 Downie, A. R., 363, 439, 443, 444, 446
 Downing, D., 386
 Dows, D. A., 298, 299
 Doyama, M., 109
 Doyle, L. C., 417
 Dračka, O., 234, 241
 Draganov, S. M., 247
 Drago, R. S., 209
 Drautzburg, G., 247
 Dravnieks, F., 154, 157, 179
 Dreeskamp, H., 399
 Drefahl, G., 266
 Dreger, L. H., 335, 336, 371
 Dressler, K., 211, 260, 261, 265, 274
 Drew, C. M., 421
 Drisko, R. W., 433
 Droop, M. R., 35
 Drawert, J., 357, 361, 368, 369, 370, 371
 Drozdova, V. M., 337
 Drury, T., 342
 Dubb, H. E., 151
 Dubois, J. T., 427
 Dudley, J. D., 332, 334, 335
 DuMond, J. W. M., 328
 Dunell, B. A., 55, 57, 58
 Dunitz, J. D., 265
 Dunlop, P. J., 185, 220
 Dunster, H. J., 36
 Durie, R. A., 257, 288
 Durieux, M., 328
 Dutton, D. B., 275
 Dutton, W., 416
 Duursma, E. D., 34
 Duynstee, E. F. J., 9
 Dvorak, K., 186
 Dvoretzky, I., 421
 Dworjanyn, L. O., 341
 Dworkin, H. S., 338, 339
 Dye, J. L., 176, 185, 187
 Dykyj, J., 341
 Dyne, P. J., 261, 400, 404
 E
 Eaborn, C., 12
 Early, J. E., 181
 Eastham, J. F., 1
 Eastman, D. P., 203, 287, 289
 Eaton, D. R., 261, 288
 Ebara, N., 269
 Eberhardt, W. H., 258
 Eberlin, E. C., 66
 Eberts, R. E., 176
 Ebisuzaki, R., 259
 Ebner, G., 382
 Ebry, J. E., 275
 Eckart, C., 29
 Eckert, R., 268
 Economou, N. A., 240
 Edelhoch, H., 441, 443
 Edison, D. H., 19
 Edmister, W. C., 330
 Edsall, J. T., 456
 Edward, J. T., 10
 Edwards, J. O., 181
 Edwards, J. W., 343
 Edwards, O. E., 17
 Edwards, S. F., 175
 Efimov, E. A., 244, 245
 Egorov, A. I., 385
 Ehrenfest, P., 83
 Ehrenfest, T., 83
 Ehrenson, S., 9
 Ehrlich, G., 139
 Eichenauer, W., 335
 Einstein, A., 326
 Eischens, R. P., 129, 130, 143
 Eisenstadt, M., 371
 Eisenstein, J. C., 274
 Eisner, M., 155
 Elder, E., 270
 Eley, D. D., 129
 Elias, L., 416, 417
 Eliel, E. L., 1, 3
 Ellefsen, Ø., 65

Elliott, A., 433, 434, 435, 436, 438, 439, 440, 443, 444
 Elliott, J. F., 334, 361
 Ellison, F. O., 255, 304, 305, 309
 Elovinich, S. Yu., 383
 Elvin, P. J., 241
 Emeleus, H. J., 371
 Emerson, M. T., 153
 Emmett, G. K., 133
 Emmett, P. H., 142, 145
 Enck, F. D., 339
 Endtlinger, F., 339
 Engardt, R. D., 112
 Engelke, J. L., 358
 Engell, H. J., 228, 234, 246
 Engelmann, E., 425
 England, J. L., 335
 Engle, R. R., 433
 Engleman, R., Jr., 415
 Enke, C. G., 244
 Enskog, D., 86
 Epelboin, I., 335
 Eppe, R., 71, 72
 Epstein, S., 37, 38, 41
 Erdelyi, V. R., 244
 Erdos, E., 186
 Erickson, R. E., 210
 Erkovich, S. P., 259
 Ershler, B. V., 402
 Erusalimskii, M. I., 365
 Erwin, M. J., 433
 Erzberger, P., 342
 Espenson, J. H., 178, 180
 Ellis, V. S., 67
 Evans, D. F., 211, 273
 Evans, E. L., 356
 Evans, J. C., 299, 340
 Evans, J. P., 337
 Evans, M. W., 456
 Evans, U. R., 233
 Evans, W. H., 330, 356, 368, 370
 Everett, D. H., 330
 Evers, E. C., 187
 Evee, A. M., 212, 335, 337, 338, 371
 Ewald, H., 39
 Ewing, G. E., 341
 Ewing, M., 35, 36
 Ewing, W. M., 338, 339
 Eyring, E. M., 413
 Eyring, H., 66, 97, 98, 290, 317, 406, 413, 415

F
 Faber, M. P., 185
 Fahey, R. C., 6
 Fahrenfort, J., 129, 130, 131
 Fahrenholz, S. R., 20
 Fainberg, E. S., 74
 Fainzil'berg, A. A., 242
 Fairbanks, H. A., 221

Fairbridge, R., 41
 Faircloth, R. L., 236
 Falk, G., 84, 327
 Falkenhausen, H., 172
 Fallon, R. J., 255
 Fang, F. T., 15
 Fano, L., 292
 Fano, U., 95, 394, 398
 Farina, M., 67
 Farmer, R. C., 22
 Farrow, G., 59
 Fasman, G. D., 439, 443, 444, 445, 446, 447, 450
 Fassbender, H., 243
 Fauble, L. G., 337
 Favini, G., 266, 268, 269
 Feder, R., 108
 Fedorov, M. K., 341
 Fedoseyeva, O. P., 384
 Fedotova, A. Z., 245
 Feely, H. W., 38
 Feeney, J., 153
 Félici, N., 186
 Fenech, E. J., 232
 Feng, M. S., 5
 Feotilov, P. P., 274
 Ferguson, F. A., 357
 Ferguson, J., 274
 Fernandez, J., 296
 Fernandez-Alonso, J. I., 266
 Fernandez-Biarge, J., 235, 244
 Fernelius, W. C., 180
 Ferrel, R. A., 398
 Ferriso, C. C., 299
 Ferry, J. D., 51, 53, 61, 228, 451
 Fessenden, R. W., 157, 162, 404
 Fessler, J. H., 436
 Fettis, G. C., 415
 Feughelman, M., 70
 Fialkov, Ya. A., 181, 210
 Fickett, W., 205
 Field, F. H., 405
 Fielding, W., 421
 Figgins, B. F., 218
 Pike, C. T., 229
 Filby, J. D., 335, 363
 Finbak, C., 65
 Finkelstein, B., 155
 Finkel'shtein, E. I., 335
 Finkelstein, M., 14
 Fiorenzi, G., 268
 Fiquet-Fayard, F., 403
 Firsov, O. B., 198
 Firsova, L. P., 334, 335
 Fischer, E. W., 71, 72
 Fischer, F., 275
 Fischer, H., 239, 240, 244
 Fischer, J., 334
 Fischer, O., 234, 241
 Fischer, P. H. H., 213
 Fischerova, E., 234
 Fisher, I. Z., 85, 215
 Fisher, J. B., 132

Fisher, L. R., 35
 Fisher, R. A., 144, 343
 Fitts, D. D., 219, 441, 442
 Fixman, M., 216
 Flanagan, T. B., 243
 Flanders, D. A., 400
 Fleischmann, M., 231, 234, 246
 Fleming, R. H., 29
 Fleming, W. H., 38
 Fletcher, J. W., 404
 Fletcher, P. C., 146
 Fletcher, W. H., 288
 Flory, P. J., 54, 66, 75, 76
 Flotow, H. E., 337
 Flournoy, J. M., 153
 Flowers, M. C., 424
 Flowers, R. H., 13, 187, 188
 Flubacher, P., 333
 Flynn, J. B., 244
 Foerster, E., 335, 336, 371
 Fofonoff, N. P., 30
 Fokina, L. A., 232
 Fokina, Z. A., 210
 Fokkens, K., 221
 Folsom, T. R., 36
 Fomichev, E. N., 337
 Foner, S. N., 158
 Forbes, W. F., 268, 269, 272
 Ford, H., 426
 Ford, R. A., 265, 274
 Forman, E. J., 189
 Forman, J. C., 330
 Forrestal, L. J., 404, 405
 Forstat, H., 336
 Forster, L. S., 270
 Förster, Th., 399
 Forsythe, W. E., 361
 Forth, H. J., 371
 Fortnum, D., 181
 Foas, J. G., 450
 Foster, J. F., 452, 456
 Foster, K. W., 337
 Foster, R., 270
 Fowell, P. A., 342
 Fowler, J. F., 396, 397
 Fox, D., 298
 Fox, L., 9
 Fox, J. W., 202
 Fox, T. G., Jr., 54
 Frachon de Pradel, A., 129, 132
 Fraenkel, G., 152, 154
 Fraenkel, G. K., 159
 Fraenkel-Conrat, H., 433
 Franck, E. H., 333
 Franck, J., 396
 Franck, U. F., 233, 234
 François, P., 306
 Franchon, C., 154
 Frank, H. S., 174, 456
 Frank, P. J., 162
 Frank, P. W., Jr., 187

Franklin, J. L., 274, 308
 Franklin, J. N., 384
 Frantseva, K. E., 337, 371
 Franzen, H. F., 367
 Fraser, P. A., 259
 Fraser, R. D. B., 439,
 440, 453
 Fraser, R. T. M., 189
 Fred, M., 264
 Freed, S., 181
 Freeman, D. H., 383
 Freeman, G. R., 405
 Freeman, R., 180
 Freeman, R. D., 358, 363,
 364
 Frei, K., 341
 Frenkel, Ya. I., 69
 Frenklikh, M., 37, 43
 Freund, H., 188
 Frevel, L. K., 299
 Frey, H. M., 412, 421, 424
 Frey, M. B., 333
 Friberg, S., 371
 Fricke, H., 400
 Friedberg, S. A., 336
 Friederich, A., 274
 Friedl, W., 258
 Friedlin, L. K., 143
 Friedman, A. H., 343, 371
 Friedman, H. L., 171-90;
 173, 174, 176
 Friedman, L., 37
 Friesen, J. L., 185
 Frilette, V. J., 385
 Frisch, H. L., 83, 85, 94,
 96, 111, 214
 Frisch, M. A., 331
 Fritz, J. J., 83
 Frosch, R. P., 269
 Frost, D. C., 362
 Frumkin, A. N., 228, 229,
 231, 232, 237, 240, 241,
 242, 243, 244
 Frysinger, G. R., 384
 Fueno, T., 303-21; 330,
 316, 317
 Fujishiro, R., 266
 Fujita, H., 185
 Fujita, I., 275
 Fujiwara, S., 152
 Fujiwara, Y., 158
 Fukui, K., 11, 12, 266,
 308, 313, 314, 315, 316,
 317, 319, 320, 321
 Fuller, C. S., 117, 118
 Fuller, D., 124
 Fuller, E., 97, 98
 Fuller, N., 3
 Funabashi, K., 398
 Fuoss, R. M., 57, 175, 178
 Furby, E., 337
 Furlani, C., 241, 274
 Furmanov, A. S., 340
 Furst, M., 399
 Furukawa, J., 67, 230, 316
 Fuschillo, N., 62
 Futrell, J. H., 405, 406

Gable, R. W., 384
 Gagaranski, Yu. V., 337
 Gagarina, A. B., 217
 Gagnaux, P., 210
 Gaidukov, G. V., 339
 Gaines, G. B., 360
 Gaines, G. L., Jr., 140
 Galanin, M. D., 270, 397,
 399
 Galatry, L., 209, 289
 Galchenko, G. L., 337
 Galkin, A. A., 219
 Galkin, L. N., 274
 Gall, J. S., 14
 Gallagher, K., 335
 Gallagher, K. J., 124
 Gallagher, P. K., 179
 Gallop, P. M., 455
 Galshenko, G. L., 335
 Galwey, A. K., 142
 Gancy, A. B., 176
 Ganenko, V. E., 342
 Ganuly, A. K., 400
 Ganis, P., 67
 Garbe, S., 39
 Garcia-Colin, L. S., 89
 Gardner, A. W., 236
 Garfinkel, D., 439
 Garing, J. S., 285
 Garrels, R. M., 40
 Garrett, C. G. B., 232,
 233, 244, 245
 Garrison, M. C., 343, 371
 Garrison, W. M., 405
 Garvin, D., 417, 418
 Gary, R., 176
 Gaskins, H., 440
 Gasser, R., 154
 Gasser, R. P. H., 180
 Gast, J. A., 31, 34
 Gast, P. W., 39
 Gaston, J., 343
 Gates, D. S., 339
 Gatos, H. C., 233, 245
 Gatti, R., 424
 Gaumer, R. E., 336, 338
 Gaydon, A. G., 262, 356
 Gehatia, M., 436, 437
 Geiderikh, V. A., 335
 Gel'a, P. V., 336
 George, J. H. B., 180
 Gerard, R., 35, 36
 Gerasimov, G. Ya., 384
 Gerasimov, Ya. I., 216,
 335, 336, 337, 338, 371
 Gergely, J., 455
 Gerngross, O., 72
 Geroni, M., 274
 Gerovich, M. A., 241
 Geske, D. H., 161

Gesser, H., 419
 Getskina, L. L., 336
 Ghormley, J. A., 401
 Ghosh, A., 399
 Giacometti, G., 427
 Giannini, G., 67
 Giauque, W. F., 188, 328,
 334
 Gibbs, J. H., 54, 66, 450
 Giber, J., 420
 Gibson, J. B., 121
 Giddings, L. E., Jr., 261,
 263
 Giddings, W. P., 16
 Gierst, L., 231, 232, 234,
 236, 241
 Giese, C. F., 369, 370
 Giguere, P. A., 333
 Giilbricht, M., 34
 Gilbert, R. L., 331, 342
 Gilde, F. J., 273
 Gil'denblat, I. A., 340
 Gilderson, P. W., 423
 Gilkerson, W. R., 178
 Gilles, P. W., 355-72; 356,
 364, 367, 369, 371
 Gillespie, R. J., 13, 187,
 188
 Gilliam, O. R., 155, 156
 Gilliland, A. A., 337
 Gillis, H. A., 406
 Gilmer, R. M., 356
 Gilpatrick, L. O., 177
 Giner, J., 243, 244
 Gingrich, N. S., 216
 Ginsburg, N., 258
 Ginzburg, V. I., 242
 Girifalco, L. A., 109, 110,
 111, 112
 Gish, D. T., 433
 Givens, W., 293
 Gjaldbaek, J. Chr., 215
 Glarum, S. H., 219
 Glasel, J. A., 208
 Glaser, O., 33
 Glasier, L., 360
 Glasstone, S., 415
 Glauber, R., 94
 Glazer, A. N., 440
 Gleiser, M., 334
 Glew, D. N., 210, 271
 Glick, A. J., 398
 Glick, R. E., 9, 56
 Glitman, T. S., 271
 Glueckauf, E., 385
 Go, S., 433
 Gobrecht, H., 245
 Gochstein, A. J., 235
 Gochstein, J. P., 235
 Godbole, E. W., 185
 Goel, P. S., 35
 Goenvec, H., 384
 Goepert-Mayer, M., 304,
 309
 Goering, H. L., 17
 Goggin, P. L., 180
 Gohr, H., 246

Goland, A. N., 121
 Golben, M., 180
 Gold, L. P., 256
 Gold, V., 3, 4, 10, 12
 Goldansky, V., 397
 Goldberg, E. D., 29-44;
 31, 32, 35, 36, 37, 39,
 40, 41, 42, 43
 Goldberg, N. A., 342
 Goldberg, N. N., 214
 Golden, S., 259
 Goldfarb, A. R., 440
 Goldfarb, T. D., 275
 Goldfinger, P., 362, 371
 Golding, R. M., 275
 Goldman, G. K., 8, 272
 Goldsmith, A., 357
 Goldstein, H. W., 362,
 366, 369
 Goldstein, J. H., 151
 Goldstein, L., 441, 443
 Goldstein, S., 385
 Golubenko, A. V., 337
 Golutvin, Ya. M., 337
 Gomel'skii, K. Z., 338
 Gooch, C. H., 118
 Good, M. L., 184
 Good, W. D., 330, 331,
 333
 Goodkin, J., 335
 Goodman, A. L., 10
 Goodman, L., 210, 272,
 307
 Goodman, G. L., 264
 Goodman, M., 443
 Gorbacheva, V. O., 74
 Gorchcoff, V. I., 143
 Gordon, A. R., 185
 Gordon, A. S., 421, 422
 Gordon, J., 183
 Gordon, J. S., 371
 Gordov, A. N., 335
 Gordy, W., 155, 156, 157
 Gorgas, W. E., 343
 Gornyi, N. B., 398
 Gorodov, L. I., 241
 Gorokhov, L. N., 335, 362,
 371
 Gosting, L. J., 185, 220
 Gould, R. D., 416
 Gouterman, M., 164
 Gouvea, M. A., 455
 Gover, T. A., 427
 Gowenlock, B. G., 411,
 424
 Goya, S., 268
 Gratovski, Z. R., 230,
 242
 Grachev, N. S., 338, 371
 Grad, H., 84
 Graddon, D. P., 274
 Graf, L., 240
 Graham, J. D., 17
 Grahame, D. C., 228, 229
 Granata, S., 114
 Grashchenko, S. M., 37,
 43

Graven, W. M., 424
 Gray, D. L., 121
 Gray, F. A., 266
 Gray, L. H., 394, 401
 Gray, P., 420
 Graybill, B. M., 15
 Grehko, M. K., 269
 Greeley, R. S., 177
 Green, H. S., 88, 93
 Green, J. H. S., 341, 423
 Green, J. W., 339
 Green, L. G., 186, 335
 Green, M., 228, 232, 244,
 438
 Green, M. S., 91, 92, 95,
 99, 216
 Greenberg, S. A., 270
 Greene, E. F., 418
 Greene, F. T., 368, 370
 Greenhalgh, R., 33
 Greenwood, N. N., 188
 Gregor, H. P., 385
 Gregory, D. P., 232
 Gregory, N. W., 333, 336,
 343, 363, 371
 Grivova, E. I., 425
 Griel, J. V., 31, 34
 Griffith, J. S., 273, 274
 Griffiths, T. R., 178, 183,
 275
 Grimes, D. M., 336
 Grimley, R. T., 338, 369
 Grineko, V. A., 38
 Griskev, R. G., 343
 Groeneveld, J., 91, 216
 Groenier, W. S., 334
 Gross, R. J., 333
 Gross, E. F., 275
 Gross, J., 445
 Gross, P., 336, 337
 Gross, A. V., 332, 333
 Grove, E. L., 185, 268
 Grove, R., 258
 Grover, G. M., 371
 Groves, K. O., 185
 Gruber, J. B., 274
 Grubhofer, N., 382
 Grummert, W. E., 36
 Grunwald, E., 9, 10, 153,
 177, 183
 Grüter, A., 40
 Gubin, F. A., 42
 Gubler, M. G., 66, 76
 Gudry, H. A., 341
 Guenebaut, H., 257
 Guggenheim, E. A., 84, 89,
 171, 205
 Guiiler, A., 371
 Gunsett, J. L., 218
 Gulyaev, P. V., 334, 335
 Gundry, P. M., 138, 140,
 146
 Gunn, S. R., 186, 335
 Gunning, H. E., 428
 Günthard, H. H., 341, 425
 Güntherschulze, A., 246
 Gupta, R. P., 56

Gurney, R. W., 230
 Gurry, R. W., 356
 Gurvich, L. V., 335
 Gush, H. P., 299
 Gustavson, K. H., 445
 Gutbezahl, B., 9, 10
 Gutowsky, H. S., 49, 153,
 155, 162, 166, 182
 Gütter, E., 72
 Guzzo, V., 163
 Gwinn, W. D., 296
 Gwyn, P. P., 417

H

Haas, C., 117, 297, 403
 Haas, K., 383
 Haase, M., 234
 Haase, R., 66, 67
 Hackerman, N., 139, 229,
 233, 246
 Hadari, Z., 115
 Hadži, D., 297, 298
 Haggart, C., 418
 Hainer, R. M., 293
 Haines, W. E., 342
 Hajal, I., 237
 Halboth, H., 67, 68, 69,
 70, 74, 76
 Haldane, A. D., 33
 Hale, D. K., 381
 Halevi, E. A., 6, 319
 Halford, R. S., 298
 Hall, C. E., 436
 Hall, F. P., 356
 Hall, G. G., 308
 Hall, H. T., 332, 334, 335
 Hall, T. P. P., 163
 Hallada, C. J., 185
 Hallas, G., 269
 Hallett, A. C. H., 334
 Halpern, J., 275
 Halpin, I. C., 66, 74
 Halsey, G. D., Jr., 139,
 215, 218
 Halverson, F., 269
 Ham, J. S., 440
 Ham, N. S., 266, 310
 Hamaguchi, H., 31
 Hamann, S. D., 205, 339,
 340
 Hameka, H., 164
 Hamill, W. H., 389, 395,
 396, 404, 405
 Hamilton, L. D., 70
 Hamilton, W. M., 143
 Hammerle, W. G., 447
 Hammett, L. P., 24
 Hammond, G. S., 15, 18,
 395
 Hanby, W. E., 433, 434,
 435, 436, 438, 439, 440,
 443, 444
 Handley, R., 341
 Handschig, G., 266, 310,
 311
 Hanlon, J. E., 115

AUTHOR INDEX

Hannan, R. B., 144
 Hans, W., 243
 Hansen, M., 356
 Hansen, N., 130
 Hanst, P. L., 427
 Hardwick, T. J., 401, 405
 Hare, W. F., 299
 Hargitay, B., 436, 437
 Harkness, A. C., 275
 Harned, H. S., 176, 186
 Harrington, G., 274
 Harrington, R. E., 412, 421, 422
 Harrington, W. F., 445, 446, 452, 453, 454, 455, 456
 Harris, C. M., 184
 Harris, F. E., 290
 Harris, G. M., 290
 Harris, P. V., 276
 Harris, R. A., 87, 220
 Harrison, A. G., 428
 Harrison, T. R., 361
 Harshman, S., 433
 Hart, E. J., 402
 Hart, H. R., 220
 Hart, R. G., 433
 Harteck, P., 416
 Hartman, H., 182
 Hartmann, J. W., 383
 Hartshorne, N. H., 333
 Harumi, K., 215
 Harvey, H. W., 29, 39
 Harvey, J. S., 123
 Harvey, W. W., 245
 Hasino, T., 310
 Hass, W. P. A., 221
 Hassel, O., 210
 Hatch, C. V. J., 34²
 Hatton, J. V., 151, 152, 211
 Hauenstein, J. D., 456
 Hausser, K. H., 159, 162, 271
 Hautecler, S., 257
 Hauteclouque, S., 427
 Haworthand, D. T., 343
 Hawthorne, M. F., 15
 Hayashi, K., 313, 315
 Hayashi, M., 291
 Hayashi, T., 162
 Hayes, W. J., 163
 Hayman, C., 336, 337
 Hayward, D. O., 343
 Head, E. L., 337
 Head, R. B., 337
 Heastie, R., 218
 Heath, C. E., 426
 Heath, D. F., 256
 Hecht, K. T., 285, 286, 287
 Heer, C. V., 338
 Heezen, B. C., 35, 36, 43
 Heffernan, M. L., 266, 305, 306, 307
 Heidt, L. J., 182
 Heijboer, J., 53, 64
 Heiney, R. E., 452
 Heitkamp, D., 112
 Heiland, H. J., 370
 Helfand, E., 85, 94, 96, 175, 214, 219
 Hellerich, F., 381, 384
 Heller, C., 155, 156, 157, 404
 Heller, C. A., 422
 Hellwege, K. H., 71, 274
 Helm, R. V., 342
 Helmholz, L., 163
 Helper, L. G., 338, 339, 343
 Henderson, J. F., 427
 Hendus, H., 51, 67, 68, 69, 70
 Henglein, A., 406
 Henshaw, D. G., 216
 Hepler, L. G., 179, 334, 338, 339
 Heppolotte, R. L., 184
 Hepworth, M. A., 265
 Herbst, M., 71
 Hercules, D. M., 270
 Herman, Z., 406
 Hermann, R. B., 341
 Hermans, J., Jr., 453, 454, 456
 Herre, W., 271
 Herrick, C. C., 337
 Herring, M. J., 60
 Herrington, K. D., 180
 Herrmann, K., 72
 Herron, J. T., 418
 Herschbach, D. R., 100, 291, 414
 Hershenson, H. M., 285
 Hertz, H. S., 154
 Herve, J., 166
 Herwig, H. U., 53
 Herzberg, G., 255, 256, 260, 261, 262, 265, 288, 356
 Hesford, E., 185
 Hess, G., 274
 Hess, K., 72
 Heumann, T., 246
 Heusler, K. E., 240
 Hexter, R. M., 298, 299
 Heymer, G., 187
 Heyns, K., 436
 Hickling, A., 241
 Hidemitsu, T., 61
 Higashimura, T., 313, 315, 316
 Higgins, C. E., 177, 185
 Higuchi, J., 160
 Hildebrand, J. A., 271
 Hildebrand, J. H., 210, 218
 Hildebrandt, A. F., 417
 Hildenbrand, D. L., 357, 363
 Hill, E. D., 337
 Hill, O. F., 265, 274
 Hill, R. L., 453
 Hill, R. W., 333
 Hill, T. L., 83, 90
 Hilton, I. C., 13
 Himmelblau, D. M., 215
 Hime, F., 232
 Hime, J., 6
 Hinshelwood, C., 424
 Hintermann, H. E., 240
 Hirai, N., 66, 73, 97
 Hirano, K., 385
 Hirata, T., 428
 Hiroike, E., 152
 Hiroike, K., 91, 92, 216
 Hirota, K., 129, 131, 152, 162
 Hirota, N., 157
 Hirs, C. H. W., 433
 Hirsch, E., 178
 Hirschfelder, J. O., 97, 99, 200, 212
 Hirschhorn, H. J., 357
 Hirshfield, M. A., 288, 289
 Hirt, R. C., 269, 342
 Hirth, J. P., 350
 Ho, Ping-lin, 381
 Hoar, T. P., 240
 Hoare, J. P., 243
 Hoare, M. R., 412
 Hobbins, P. C., 298
 Hoch, M., 369
 Hochanadel, C. J., 400, 401, 402
 Hochstrasser, R. M., 268, 270, 411
 Hoechstra, J. L., 240
 Hoff, G., 71
 Hoff, R. E., 214
 Hoffman, J. M., 286
 Hoffmann, J. D., 66, 74
 Höglfeld, E., 9, 382
 Hoh, G., 182
 Hohnstedt, L. F., 343
 Hoijtink, G. J., 166, 230, 241, 273, 306
 Holcomb, D. L., 383
 Holiday, E. R., 455
 Hollas, J. M., 260, 261, 263, 266, 267
 Holleck, L., 242
 Holley, C. E., Jr., 337
 Hollinger, H. B., 88
 Hollingworth, B. R., 456
 Hollocher, T., 166
 Holmberg, R. W., 156, 157
 Holmes, D. R., 77
 Holmes, R., 202
 Holtom, W. C., 163, 165
 Holtzer, A. M., 440, 441
 Honda, M., 31, 35
 Hood, D. W., 34
 Hood, G. C., 189
 Hooper, G. W., 336, 370
 Hope, H., 210
 Hopkins, T. E., 335, 359
 Hopper, C. W., 70
 Horal, K., 163

Horle, C., 398
 Horiechi, J., 237, 242
 Hörl, E. M., 274
 Hornig, D. F., 297, 299, 403, 416
 Horning, W. C., 13
 Hornung, E. W., 188, 328, 334, 335
 Horton, W. J., 268
 Hosemann, R., 68, 69, 70
 Hoskins, R. H., 158
 Hosoya, H., 271
 Hostettler, H., 364
 Horvorka, F., 244
 Howald, R. A., 177, 178
 Howe, L. L., 255
 Howells, E. R., 68
 Hoyland, J. R., 307
 Hu, J. H., 335
 Huang, K., 89
 Huang, S.-S., 391
 Huang, Y. S., 340
 Hubbard, W. N., 331
 Huber, E. J., Jr., 337
 Huber, K., 233
 Huber, W., 266, 310, 311
 Hückel, E., 304
 Hudda, F. G., 139
 Hudson, D. E., 368, 371
 Hudson, G. H., 201
 Huff, K., 59
 Huffman, D. R., 338
 Hüfner, S., 274
 Huggins, M. L., 66
 Hughes, E. D., 19, 20
 Hughes, G., 405
 Hughes, H. W. D., 424
 Hughes, T. R., 166
 Huisgen, R., 21, 22, 23
 Hulett, J. R., 2
 Huston, R., 38
 Hultgren, R., 329
 Hultgren, R. R., 356
 Hultsch, R. A., 112
 Hume, D. N., 189, 235
 Hummerstone, L. G., 31
 Huntington, H., 111
 Hurlbut, F. C., 364
 Hurd, D. T., 360
 Hurlen, T., 240
 Hurst, R. P., 96, 212, 255
 Hurwitz, H., 141, 234, 238
 Hush, N. S., 230
 Hutchens, J. O., 331, 342
 Hutchinson, F., 402
 Hutchinson, C. A., 163, 164
 Hutton, E., 270
 Huzinaga, S., 310
 Hyne, J. B., 8
 Hynes, R. D., 445

I
 Ibata, T., 7
 Ibers, J. A., 155

Ibl, N., 232
 Idelson, M., 436, 437
 Iphaya, Y., 307
 Ikeda, K., 215
 Ikeda, R. M., 2
 Illers, K. H., 49-77; 51, 52, 55, 56, 57, 58, 59, 60, 63, 64, 65, 77
 Imahori, K., 440
 Imai, N., 419
 Imamura, A., 321
 Imanishi, S., 210, 211, 272
 Imlík, B., 129, 132
 Inaba, T., 415
 Inamoto, Y., 321
 Inghram, M. G., 357, 361, 366, 369, 370
 Ingold, C. K., 19, 20, 261
 Ingram, D. J. E., 163
 Inman, M. C., 115
 Innes, K. K., 258, 261, 263
 Ino, T., 338, 365, 371
 Inoue, S., 67
 Inukai, K., 272
 Inuzuka, K., 210, 211, 267, 272
 Iofa, Z. A., 229, 243
 Iovleva, M. I., 71
 Irving, H., 184, 269
 Isaacs, J. D., 36
 Isakova, E. P., 335
 Isaksen, R. A., 51
 Ishibashi, M., 31, 33
 Ishibashi, N., 385
 Ishida, K., 413
 Ishida, Y., 54, 58
 Ismailov, N. A., 189
 Iso, K., 447, 450
 Ito, K., 67, 152, 272, 310
 Ito, M., 210, 211, 272
 Itoh, J., 152
 Itskevich, E. S., 334, 335
 Ivanov, M. I., 337
 Ivanova, J. B., 237, 244
 Ivanova, R., 232, 241
 Ives, D. J. G., 242
 Iyengar, Y., 176
 Izard, D., 33
 Izmailov, I. M., 183
 Izmailov, N. A., 9
 Izmail'iskii, V. A., 268, 271

J
 Jaccarino, V., 163, 166
 Jack, K. H., 265
 Jackson, J. A., 154, 181
 Jacobs, H., 56, 57, 58
 Jacobs, J. J., 385
 Jacobs, P. W. M., 246
 Jacobs, T. A., 355
 Jacobsen, C. F., 450
 Jacobson, J. D., 85
 Jacox, M. E., 217
 Jaenicke, W., 234
 Jaffé, H. H., 269

Jaffe, I., 356
 Jaffé, J. H., 288, 289
 Jaffee, R. I., 360, 372
 Jagow, R. H., 6
 Jahn, H. A., 264, 287
 Jahns, W., 243
 James, D. W., 335
 James, J. F., 259
 James, S. D., 385
 Janjic, D., 207
 Jannakoudakis, D., 273
 Jannuzzi, N., 294
 Janssen, M. J., 268
 Janz, G. J., 189, 335
 Jardetzky, C. D., 152
 Jardetzky, O., 152, 179
 Jarmain, W. R., 259
 Jarvie, A. W. P., 13
 Jarvis, W. J., 385
 Jastrzebska, J., 228
 Jeffrey, L. M., 34
 Jeffries, E. A. N. S., 363
 Jehlicka, V., 186
 Jen, C. K., 158
 Jenckel, E., 51, 52, 53, 59, 63, 64, 66, 67, 68, 69, 70, 72, 74, 75, 76
 Jencks, W. P., 24
 Jenkinson, W. M., 404
 Jennings, L. D., 337
 Jenisch, W., 243
 Jensen, F. R., 153
 Jerusalimchik, I. G., 244, 245
 Jessup, R. S., 331, 333
 Jest, B., 420
 Jeunehomme, N., 362, 371
 Jirgensons, B., 452
 Joanes, A. A., 57, 58
 Johannessen, J. K., 33
 Johansen, H. A., 247
 Johns, J. W. C., 257, 261, 262
 Johnson, A. M., 182
 Johnson, E. A., 276
 Johnson, F. A., 334
 Johnson, G. C., 385
 Johnson, H. L., 198
 Johnson, J. E., 69
 Johnson, J. S., 186
 Johnson, M. D., 22
 Johnson, M. W., 29
 Johnson, R. G., 368, 371
 Johnson, W. H., 335, 337
 Johnston, D. R., 207
 Johnston, H. L., 333, 369, 371
 Johnston, H. S., 100, 334, 412, 414, 425
 Jolly, W., 334
 Jolly, W. L., 187
 Jonathan, N. B. H., 310
 Jones, A. C., 190
 Jones, D. E., 24
 Jones, G. H. S., 334
 Jones, G. O., 207
 Jones, J. M., 5

AUTHOR INDEX

Jones, L. H., 339
 Jones, P. F., 221
 Jones, P. P., 424
 Jones, R. N., 269
 Jones, W. J., 208
 Jongerius, H. M., 258
 Jordan, P. L., 360
 Jørgensen, C. K., 274
 Jorgenson, T., 390
 Jortner, J., 183, 275, 402
 Josien, M., 208
 Joyner, T. B., 336
 Judd, B. R., 274
 Juig, A., 272, 306
 Jumper, C. F., 383
 Jung, H., 84, 327
 Jungers, J. C., 242
 Jursa, A. S., 262

K

Kabanov, B. N., 229, 230, 240, 245, 246
 Kac, M., 84
 Kachinskaya, O. N., 339, 340
 Kaechits, I. V., 268
 Kagan, Y., 397
 Kaganovich, R. I., 241
 Kahane-Paillous, J., 267
 Kahle, H. G., 274
 Kahleberg, F., 370
 Kahlweit, M., 185
 Kaishev, R., 239
 Kakihana, H., 385
 Kakimoto, D., 35
 Kalarickal, S., 403
 KaHnenko, R. A., 2
 Kalle, K., 29
 Kallmann, H., 399
 Kameda, K., 36
 Kamenetskaya, S. A., 425
 Kaminsky, M., 184
 Kämpf, G., 70, 71, 72
 Kanamori, S., 31
 Kanazawa, A., 35
 Kanda, Y., 270
 Kandalic, G. A., 200, 339, 340
 Kandyba, V. V., 337
 Kantor, P. B., 337
 Kanzaki, H., 111
 Kao, T., 247
 Kaplan, I. A., 38
 Kaplan, J., 417
 Kaplan, M. L., 9, 153
 Kapoor, R. M., 333
 Kippel, M., 240
 Kapustinskii, A. F., 335, 338, 342
 Karabatos, G. J., 17
 Karabatos, P. J., 153
 Karapet'yants, M. Kh., 340
 Karasharli, K. A., 340
 Karasik, E. M., 338, 339
 Karatkov, A. A., 67

Karbanov, V. A., 67
 Kargin, V. A., 67
 Karibian, D., 455
 Karkuzaki, L. I., 188
 Karl, D. J., 185
 Karlikov, D. M., 216
 Karlson, R. H., 437, 443, 444, 447, 450
 Karo, A. M., 255, 338, 339
 Karpachev, S. V., 338, 339
 Karplus, M., 152, 290
 Karvelis, N., 335
 Kasai, P., 291
 Kasha, M., 398
 Kassel, L. S., 411
 Kastening, B., 242
 Katagiri, K., 313, 315, 316
 Katchalski, E., 433-57; 435, 436, 437, 438, 441, 443, 444, 445, 446, 447, 450, 452, 455
 Kato, H., 308, 313, 317, 319
 Kato, Y., 62, 155
 Katon, J. E., 340
 Katritzky, A. R., 269
 Katsura, S., 215
 Katz, J. J., 356
 Katz, T. J., 152, 162
 Kauffman, D. L., 433
 Kaufman, J. J., 7
 Kaufman, L., 123
 Kaufman, M. H., 342
 Kauman, W. G., 186
 Kauzmann, W., 434, 438, 442, 453
 Kawagoe, K., 35
 Kawaguchi, T., 57, 58
 Kawai, K., 336
 Kawamoto, T., 34
 Kawamura, K., 31
 Kawasaki, A., 67
 Kawashida, K., 35
 Kay, C. M., 451
 Kay, H., 34
 Kay, R. L., 180
 Kay, W. B., 330, 334, 341
 Kazachinskii, Ya. Z., 339
 Kaznadzei, O. N., 385
 Keavney, J. J., 66, 371
 Keck, J. C., 413
 Keen, D. J., 34
 Kegeles, G., 220
 Keith, H. D., 71
 Kelbg, G., 172, 173, 175
 Kell, G. S., 185
 Keller, A., 71
 Keller, J. B., 94, 213
 Kelley, K. K., 329, 338, 356
 Kellner, S. M. E., 423
 Kemball, C., 135, 139, 140, 142
 Kempter, C. P., 337
 Kemula, W., 242
 Kendrew, J. C., 433, 453
 Keneshea, F. J., Jr., 371

Kennedy, A., 334
 Kennedy, J., 383, 384
 Kennedy, J. M., 400
 Kennelly, J. A., 337
 Kent, L. H., 441
 Keplinger, E., 269
 Kerker, M., 185
 Kerr, G. T., 385
 Kerr, J. A., 419, 421, 422
 Ketchum, B. H., 34, 36
 Ketelaar, J. A. A., 299
 Keulemans, A. I. M., 142
 Kevorkian, V., 426
 Keyes, R. W., 112
 Keys, R. T., 395
 Keyueva, M. L., 341
 Khandamirova, N. E., 337, 371
 Khandelwal, D. P., 275
 Khanna, B. N., 258
 Kharkar, D. P., 35
 Khazanova, N. E., 217
 Kheifets, V. L., 237
 Khinchin, A. Ya., 83, 84
 Khomyakov, K. G., 338, 343
 Khooobi, S. H., 343
 Kidson, G. V., 114
 Kieffer, R., 356
 Kientzler, C. F., 30
 Kiess, N. H., 261
 Kihara, T., 94, 204
 Kilb, R. W., 291
 Kilday, M. V., 335
 Kilian, H. G., 49-77; 63, 64, 65, 66, 67, 68, 69, 70, 72, 74, 76
 Kilpatrick, M., 185
 Kimel, S., 288, 289
 Kin, L., 51
 King, B. R., 336
 King, C. V., 237
 King, E. G., 336, 338
 King, E. L., 178, 180, 184
 King, F. T., 269
 King, G. W., 260, 261, 293
 King, H. A., 372
 King, J. P., 336
 King, P. F., 246
 King, R. W., 21
 Kingery, W. D., 116, 356, 359, 361, 372
 Kingman, F. E. T., 146
 Kingsbury, C. A., 21
 Kington, G. L., 343
 Kirgintsev, A. N., 218
 Kirianenko, A., 113, 114
 Kirillov, P. L., 338, 371
 Kirk, A. D., 423
 Kirkwood, J. G., 57, 84, 86, 87, 93, 95, 97, 139, 174, 175, 219, 220, 441, 442
 Kirsh, I. V., 217
 Kirsh, L. V., 217
 Kirshenbaum, A. D., 332, 333

AUTHOR INDEX

477

Kirtman, B., 285-99
 Kiselev, A. V., 343
 Kishida, E., 342
 Kishko, S. M., 259
 Kislink, P., 343
 Kiss, A. I., 268
 Kistemaker, J., 202
 Kistliakowsky, G. B., 261,
 412, 421, 424
 Kitaigorodskii, A. I., 69,
 217
 Kitchener, J. A., 384
 Kitrooski, N. A., 271
 Kivelson, D., 159, 292
 Kizina, M. P., 342
 Kjellberg, G., 43
 Klatunovskii, E. I., 342
 Klanberg, F., 188, 371
 Klassova, N. S., 275
 Klein, H. M., 362, 371
 Klein, L., 455
 Klein, M., 70
 Klein, R., 414
 Kleinerman, M., 231, 232
 Kleman, B., 261
 Klemm, W., 371
 Klemperer, W., 256
 Kletenik, I. B., 210
 Klevzova, M. P., 230
 Klegman, J. M., 271
 Klimova, L. A., 270
 Klimova, V. A., 242
 Klotz, I. M., 452
 Klumb, H., 341
 Klute, C. H., 70
 Knaap, H. F. P., 201, 333
 Knappwost, A., 384
 Knarr, W. A., 371
 Knebuhl, F., 158
 Knight, C. A., 433
 Knoester, M., 201
 Knor, Z., 144
 Knowles, C. H., 333
 Knox, J. H., 415, 423
 Knox, K., 166, 265
 Knoz, L. L., 246
 Kny, H., 152
 Kobayashi, H., 246
 Kobayashi, J. I., 273
 Kobayashi, T., 269, 271
 Kobe, D. H., 341
 Kobe, K. A., 332, 341
 Kochemirovskii, A. S.,
 272
 Kochi, J. K., 15
 Koczy, F. F., 31, 37
 Kodaira, K., 385
 Kodama, M., 238
 Kodera, T., 243
 Koehler, J. S., 109
 Koenig, F. O., 327
 Koepf, H. M., 182, 184
 Koga, H., 163
 Kogan, V. S., 219
 Kohn, H. W., 158
 Kohnen, H., 420
 Kohnstam, G., 183
 Koide, M., 35, 37, 43
 Kolke, Y., 62, 155
 Kojima, K., 209
 Kojima, M., 384
 Kokes, R. J., 135, 142
 Kokuchi, Y., 154
 Kokoulina, D. W., 240
 Kokovin, G. A., 336, 371
 Kolbina, E. M., 336
 Kolesnikova, R. V., 417
 Kolesov, V. P., 337, 338
 Kolobkov, V. P., 272
 Kolotyrkin, Ya. M., 233
 243, 246
 Kolski, T. L., 341
 Kolsky, H. G., 356
 Komarovskikh, K. F., 275
 Konigsberg, W. H., 438
 Konitzer, J. D., 275
 Konvalinka, J. A., 133
 Koopman, T., 307
 Koppel, L. B., 334
 Koppelman, J., 53
 Koritskii, A., 158
 Korneeva, I. V., 335, 371
 Kornguth, S. E., 438
 Kornilov, A. N., 335
 Korsgaard-Christensen, L.,
 450
 Koryta, J., 234, 235, 238
 Kosfeld, R., 49-77; 51, 52,
 57, 74
 Kosland, D. E., Jr., 433
 Koski, W. S., 7, 157, 163
 Kosower, E. M., 15, 183
 Koster, G., 165
 Koster, G. F., 182
 Kostkowski, H. J., 418
 Kostryukov, V. N., 335
 Kostylev, F. A., 337
 Kotov, E. I., 273
 Koutecky, J., 232, 234
 235, 313
 Kovacs, A. J., 66, 76
 Kovacs, I., 256
 Kovner, M. A., 340
 Kowalewski, V. J., 152
 Koyama, T., 34
 Kozak, P. J., 419
 Kozicki, W., 339
 Kozlov, P. V., 71
 Kozlova, G. L., 217
 Kramer, G. M., 339
 Krapcho, A. P., 17
 Krasovets, F., 76
 Krasovitskaya, R. M., 337
 Krasulina, V. N., 67
 Kraus, K. A., 186, 383
 Krause, M., 235, 237, 238
 Krause, S., 433
 Krauss, M., 260
 Krawetz, A. A., 176
 Krebs, A., 23
 Kreage, A. J., 12, 13
 Kressman, T. R. E., 385
 Kretschmer, C. B., 416,
 417
 Krichevskii, I. R., 217
 Kriegs, O. H., 371
 Kribbaum, W. R., 77
 Krimm, S., 69
 Krischitalik, L. I., 242
 Krishna, V. G., 210, 272
 Krishnamachari, S. L. N. G.,
 274
 Kriss, A. E., 42
 Kroh, J., 401
 Kröll, V. S., 43
 Kromhout, R. A., 153
 Krongauz, V. A., 399
 Kropf, A., 413
 Krouskop, N. C., 340
 Kruh, R. F., 216
 Krum, F., 59, 64
 Kubaschewski, O., 356
 Kublik, Z., 242
 Kubo, M., 152, 310
 Kuboyama, A., 266, 271
 Kuchela, K. N., 399
 Kucheryayil, V. I., 342
 Kuchinka, M. Iu., 259
 Kučirek, J., 334
 Kuebler, N. A., 426
 Kuether, F. W., 360
 Kuhn, H., 266, 268, 310,
 311
 Kuhn, H. J., 382
 Kuhn, I. P., 425
 Kuhn, W., 382, 447
 Kuhnkeis, R., 245
 Kuliev, A. A., 335, 371
 Kullnig, R. K., 290
 Kulp, J. L., 38
 Kummer, J. T., 145
 Kunin, R., 381-86; 381,
 386
 Kunzler, J. E., 188, 328,
 334
 Kuppermann, A., 400, 426
 Kurata, M., 330
 Kurath, S. F., 53
 Kure, K., 154
 Kuri, Z., 158
 Kurliacose, J., 147
 Kurien, K. C., 402
 Kurland, R. J., 297
 Kurtz, J., 437, 445, 446
 Kury, J. W., 179
 Kurzweg, U. H., 259
 Kusch, P., 371
 Kusenko, F. G., 336
 Kusnezov, V. A., 230
 Kusunoto, H., 152, 155
 Kuta, J., 234, 241
 Kutschke, K. O., 419
 Kuwana, T., 182
 Kuwata, K., 129, 131, 162
 Kuyazheva, V. M., 246
 Kuzmina, L. A., 43
 Kuznetsov, F. A., 337
 Kuznetsov, Y. U., 37, 43
 Kuznetsova, E. M., 385
 Kwart, H., 10
 Kyi, R., 163

AUTHOR INDEX

Kyznetsova, V. P., 268

L

Labau, A., 329, 340
 Lachman, J. C., 360
 Lacina, J. L., 330, 331, 333
 Lacson, J., 57
 Laevestu, T., 34
 Lafferty, W. J., 296
 Lafitte, M., 336
 Lagemann, R. T., 333
 Lagos, A. E., 384
 Laidler, K. J., 9, 173, 177, 403, 415, 426
 Laitinen, H. A., 187, 229, 232, 235, 244
 Lakshman, S. V. J., 257
 Lal, D., 35
 Lambe, J., 122
 Lambreg, M., 219
 Lambert, J. D., 207
 Lambert, R. W., 12
 Lämmermann, H., 274
 Lampe, F. W., 405, 406
 Land, R., 59
 Landau, L. D., 83, 102, 411
 Landel, R. F., 51, 61
 Landesman, A., 159
 Landis, A. L., 337
 Landolt-Bornstein, 356
 Landsberg, P. T., 326
 Lang, E. J., 43
 Lang, J. I., 335, 336, 338
 Lang, S. M., 372
 Lange, E., 246
 Langer, S., 207, 337
 Langford, C. H., 9, 189
 Langille, W. M., 33
 Langridge, R., 70
 Lannung, A., 215
 Lanum, W. J., 342
 Lapanje, S., 382
 Laranjeira, M. F., 202
 Larson, J. G., 426
 Lascombe, J., 208
 Lashko, O. S., 216
 Laskowski, M., Jr., 448, 456
 Lassettre, E. N., 391
 Latimer, W. M., 187
 Latorre, C., 341
 Laughton, P. M., 3
 Laurence, N., 115, 116
 Laurie, V. W., 294
 Lauritzen, J. I., Jr., 66, 74
 Lautsch, W. F., 342
 La Vecchia, A., 239
 LaVilla, R. E., 333
 Lavine, M. C., 233, 245
 Lavrovskii, C. P., 2
 Lawley, K. P., 152, 206
 Lawrence, I. J., 155
 Lawson, A. W., 110, 112

Lawton, E. J., 158
 Lazarev, B. G., 114, 219
 Lazarev, V. G., 219
 Lazarus, D., 112, 115
 Lea, D. E., 400
 Lea, K. R., 85, 212
 Leach, S. J., 434, 435, 453, 456
 Leadbetter, A. J., 333
 Leaderman, H., 51, 62
 Lebeau, P., 356
 Lebedev, V. I., 371
 Lebihart, H., 310
 LeBlanc, F. J., 262
 LeBlanc, O. H., Jr., 397
 Lebowitz, J. L., 85, 214
 LeClaire, A. D., 119
 Leder, L. B., 398
 Lee, C. C., 15
 Lee, D. A., 385
 Lee, T. D., 88, 89
 Lee, T. S., 247
 Lee, W. G., 20
 Lees, C. W., 228
 Lefebvre, C., 218
 Lefebvre, R., 158, 160, 304, 311, 313
 Lefebvre-Brion, H., 260
 Lefek, K. T., 5, 6
 Legay, F., 257
 Legvold, S., 202
 Lehmann, W. J., 343
 Lehtola, T., 274
 Leighton, F., 417, 431
 Leikis, D. I., 240, 246
 Leitich, J., 1
 Leitnaker, J. M., 370
 Lemieux, P. U., 290
 Lemons, J. F., 154, 181
 Lenard-Jones, J. E., 310
 Lenormant, H., 438
 Leniskii, A. S., 334
 Le Pair, C., 219
 Lepoutre, G., 187
 Leroy, G., 269
 Lesage, M., 17
 Levett, J. M. H., 96, 205, 212, 333
 Levi, D. L., 336, 337
 Levich, V. G., 228, 231, 232, 233, 237, 244
 Levin, E. M., 356
 Levine, S., 173, 175, 356
 Levisalles, J., 1
 Levitin, N. E., 343
 Levy, M. M., 371
 Levrushin, V. F., 268
 Levshin, V. L., 270
 Levstek, I., 76
 Levy, J. B., 424
 Levy, M., 456
 Levy, P. W., 155, 156
 Levy, V., 115
 Lewin, R. A., 35
 Lewinson, V. A., 93
 Lewis, D. C., 184
 Lewis, E. S., 5, 22
 Lewis, F. A., 243
 Lewis, G. J., 34
 Lewis, G. N., 356
 Lewis, I. C., 7, 9
 Lewis, K. G., 425
 Leyenaar, A., 123
 Li, C. H., 433
 Libby, W. F., 36, 43
 Lichin, N. N., 180
 Lide, D. R., Jr., 291
 Lidiard, A. B., 115
 Liebermann, L. N., 261
 Liehr, A. D., 263, 264, 265
 Lien, A. P., 14
 Lien, W. H., 338
 Lier, R. H., 357, 359
 Lietzke, M. H., 177
 Lifshitz, E. M., 83, 102
 Lifson, S., 450
 Ligenza, J. R., 124
 Liimatainen, R. C., 333
 Liler, M., 234, 246
 Lillien, I., 269
 Limanov, V. E., 268
 Lin, C. C., 290, 291
 Lin, J.-L., 335
 Lind, S. C., 406
 Lindenbaum, S., 383
 Linderström-Lang, K., 434, 451, 452, 453, 454
 Linnett, J. W., 416
 Linschitz, H., 271
 Linschitz, L. R., 217
 Lipatov, S. M., 74
 Lippincott, E. R., 255, 290, 340
 Lippoldt, R. E., 441, 443
 Lipsky, S., 399
 Lisitsa, M. P., 208
 Lister, M. W., 180
 Liston, T. V., 8
 Little, L. H., 143
 Litz, L. M., 372
 Livey, D. T., 371, 372
 Livingston, A., 335
 Livingston, R., 156, 157
 Livingstone, S. E., 184
 Llewellyn, J. A., 5, 6
 Llopis, J., 235, 244
 Lluch, F., 269
 Lochet, R., 270
 Loeb, G. I., 448
 Loeffler, M. C., 329, 340
 Loewe, L., 9
 Lofgren, N. L., 371
 Loftus, A., 259, 310
 Logan, J. K., 328
 Logan, R. A., 117
 Logan, S. R., 135
 Lohr, H. R., 337
 Lombardi, E., 154
 Lonberger, S. T., 360
 Long, F. A., 4, 10, 12, 13
 Long, L. H., 424, 427
 Longi, P., 67

Longuet-Higgins, H. C., 87, 264, 265, 266, 310, 312, 314
 Lord, R. C., 296
 Lorenz, W., 229, 231, 232, 238, 239, 241
 Lorquet, J. C., 260
 Lösche, A., 49
 Losev, W. W., 237, 238
 Lossing, F. P., 308, 428
 Lott, K. A. K., 163, 275
 Lounasmaa, O. V., 219, 333
 Love, H. M., 221
 Lovejoy, D. R., 361
 Lovreček, B., 245
 Low, W., 274
 Löwdin, P.-O., 305, 306, 311
 Lowe, J. P., 20
 Lowenstein, H., 44
 Lowenstein, H. A., 41
 Lowenstein, A., 446
 Lucchesi, P. J., 404
 Luckenbach, T. A., 420
 Lückert, J., 341
 Luetic, P., 129
 Luginina, V. F., 338
 Lukinov, N. L., 338
 Lukovskii, O. S., 333
 Lundberg, R. D., 436
 Lupinski, J. H., 210
 Lutakai, A. E., 221, 268, 273
 Lutze, E., 158
 Lyddane, R. H., 309
 Lyden, E. F. X., 31, 35
 Lygina, I. A., 343
 Lykos, P. G., 160
 Lynch, D. W., 116
 Lynch, E. J., 342
 Lynn, K. R., 2
 Lyon, R. J., 270
 Lyons, L. E., 266, 267, 273
 Lyons, V. J., 343, 371

M

McAlonie, G. E., 271
 McBride, W. R., 342
 McCall, D. W., 57, 66, 155
 McCallum, K., 334
 McCarty, K. P., 202
 McCarty, M., Jr., 275
 McCaulay, D. A., 14
 Macchi, M., 74
 McClintock, R., 385
 McClure, D. S., 273
 McClure, G. R., 151
 MacColl, A., 423, 425
 McConnell, H. M., 155, 156, 157, 159, 160, 165, 307, 311, 404
 McCormick, H. W., 51
 McCoubrey, J. C., 201
 McCracken, G. M., 221

McCrumb, N. G., 63, 69
 McCullough, J. D., 209
 McCullough, J. P., 330, 340
 McDaniels, J. C., 17
 MacDiarmid, A. G., 334
 McDonald, T. R. R., 439, 443
 McDowell, C. A., 165, 213, 362
 McDowell, R. S., 339
 McEachran, R. P., 259
 McEwen, K. L., 260
 McFadden, M. L., 456
 McFee, J. H., 364
 McGavin, S., 434, 445, 452
 McGeer, J. P., 135
 McGlashan, M. L., 205, 333, 335, 341
 McGlynn, S. P., 270
 McGrath, J. W., 154
 McGrath, W. D., 418, 426
 McGuire, J. C., 337
 McIntosh, J., 59
 McIntyre, G. H., Jr., 180
 Mack, W., 22, 23
 Mackay, D., 385
 McKay, H. A. C., 185
 McKay, R. A., 339
 Mackellar, F., 152
 McKelvey, V. E., 40
 Mackenzie, J. D., 355, 372
 McKeown, J. J., 337
 McKetta, J. J., 332
 McKinney, C. N., 258
 McKinney, N. E., 237
 McKittrick, P. S., 359
 Mackor, E. L., 152, 241, 313
 MacLachlan, A., 399
 MacLachlan, A. D., 152, 159, 160, 166, 311, 312
 McLain, W. H., 412, 422
 McLaren, E. H., 334
 McLaren, G. A., 155
 McLaughlin, D. E., 211
 McLaughlin, E., 220
 McLean, A. D., 260
 MacLean, C., 152
 McLellan, A. G., 274
 McLennan, J. A., Jr., 219
 McLennan, R. B., 335
 McMahon, P. E., 153
 McMillan, G. R., 420, 421, 422
 McMillan, J. A., 158
 McMurdie, H. F., 356
 MacNamara, J., 38
 McNesby, J. R., 414
 MacQueen, J. T., 217
 McRae, E. G., 398
 MacRae, T. P., 453
 McWeeny, R., 308
 MacWood, G. E., 335
 Mador, L. I., 298
 Maeda, K., 162, 309

Magat, M., 406
 Magee, J. L., 389-407; 392, 394, 398, 399, 400, 403
 Mager, K. J., 271
 Magneli, A., 371
 Magnitsky, A. W., 34
 Magnusson, E. A., 310
 Mah, A. D., 330, 336, 343
 Mahan, B. H., 101, 412, 413, 426
 Mahendroo, P. P., 155
 Mahieu, M., 100
 Mahl, H., 72
 Mahler, W., 153
 Mahlman, H. A., 401
 Maidanovskaya, L. G., 371
 Mains, G. J., 405, 428
 Maioli, L., 23
 Mair, B. J., 340
 Mair, W. N., 370
 Mairanovskii, S. G., 242
 Mairy, C., 113, 114
 Maisch, W. G., 255
 Majer, J. R., 427
 Makansi, M. M., 338, 339
 Maki, A. H., 161, 162
 Makin, M. J., 121
 Makishima, S., 385
 Makrides, A. C., 139
 Malcolm, B. R., 443
 Malinovskii, J., 239
 Malm, J. G., 264, 336, 337
 Mal'tsev, V. A., 337
 Malyuchkov, O., 155
 Mamedov, Kh. I., 270
 Man, D., 371
 Manara, A., 114
 Mandel, G., 274
 Mandelcorn, L., 214
 Mandelkern, L., 66, 72, 75, 76, 77
 Mandell, E. R., 51, 53, 62
 Mandell, L. P., 151
 Mangelsdorf, P., 212
 Mangini, A., 266
 Mangum, B. W., 164
 Manley, O. P., 111
 Mann, D. E., 292, 308, 335, 368, 370
 Mann, J. B., 198
 Mann, K. H., 335, 371
 Mannchen, W., 337
 Mannella, G., 416
 Manning, M. F., 297
 Mansell, A. L., 276
 Marantz, S., 342
 March, N. H., 115
 Marcus, P. M., 364
 Marcus, R. A., 230
 Marcus, R. B., 337
 Marcus, Y., 383
 Mardon, P. G., 337
 Margrave, J. L., 330, 335, 336, 338, 339, 355, 359, 361, 362, 368, 370, 371

AUTHOR INDEX

Markham, J. J., 275
 Mars, P., 133
 Marshall, B. T., 338
 Marshall, T. W., 152
 Marth, W., 120
 Martin, D., 36
 Martin, D. L., 335, 338
 Martin, G. R., 427
 Martin, H., 266, 310, 311, 425
 Martin, J. J., 333, 340, 341, 342
 Martin, P. C., 95
 Martin, T. W., 405
 Martinyuk, G. A., 242
 Marton, L., 398
 Marvell, E. N., 18
 Masland, C. H., 207
 Maslov, P. G., 330
 Maslov, Yu. P., 330
 Masnitchonko, E. A., 243
 Mason, E. A., 198, 200, 201, 202, 255
 Mason, R., 343
 Mason, S. F., 261, 263, 268
 Mastoor, M. A., 333
 Matheson, M. S., 158
 Mathews, T., 9, 10
 Mathias, B., 166
 Matijevic, E., 185
 Matorina, N. N., 383
 Matouš, J., 341, 342
 Matsen, F. A., 139, 255, 307
 Matsuda, A., 237, 242
 Matsuda, H., 235, 236, 237, 238
 Matsugashita, T., 158
 Matsunaga, Y., 165
 Matsuo, S., 66, 72, 73, 74
 Matsuura, M., 334
 Mathews, C. O., 372
 Mathews, D. L., 416
 Mattson, E., 239
 Matumara, O., 163
 Matyash, I. V., 219
 Maun, E., 93
 Mayahi, M. F., 24
 Mayeda, T., 37, 38
 Mayer, J. E., 84, 91, 92, 100, 173
 Mayer, M. G., 91, 92, 100
 Mayer, S. W., 334, 337
 Mazo, R. M., 83-102; 96
 Mazur, J., 414
 Mazur, R. H., 15
 Mazzanti, G., 67
 Meadows, L. F., 395
 Meal, J. H., 292, 293
 Meares, P., 385
 Meeron, E., 91, 172, 216
 Meerson, S. L., 74
 Meetham, A. R., 341
 Mehl, W., 231, 238, 243
 Meiboom, S., 153, 446
 Meijer, P. H. E., 217
 Meilman, E., 455
 Meise, W., 425
 Meister, A. G., 288
 Meixner, J., 84
 Melander, L., 1, 12, 411
 Mellors, G. W., 246
 Melton, C. E., 405, 406
 Menard, H., 39
 Mendowitz, H., 398
 Meng-Chieng, N., 33
 Menzel, D., 246
 Meriläinen, P., 335
 Merrill, J. R., 31, 35
 Merritt, J. A., 261, 263
 Merten, U., 343, 362, 371
 Mertsin, A. B., 217
 Merz, E. H., 51
 Meschi, D. J., 338, 343, 362, 363, 370, 371
 Meshcheryakov, A. P., 339
 Meshitsuka, G., 405
 Metzger, L. C., 334
 Meyer, A. S., Jr., 186
 Meyer, F., 333
 Meyer, G., 371
 Meyer, K. H., 66
 Meyer, Y., 270
 Meyers, M. D., 265, 274
 Meyers, O. E., 336
 Meyerson, S., 3
 Miamlin, V. A., 233
 Miasishev, G. G., 402
 Michailow, G. P., 51
 Michel, W., 244
 Michels, A., 91, 199, 203, 333
 Michelson, D. C., 383
 Michi, H., 437
 Micka, K., 234
 Middlebrook, W. R., 455
 Migeotte, M., 288
 Migita, K., 268
 Mihalyi, E., 454, 455
 Mikhailov, B. M., 270
 Mikhailov, N. V., 74
 Mikhailova, N. A., 336
 Mikkelsen, K., 454
 Mikelin, G. I., 173, 184
 Milazzo, G., 266
 Milgram, M., 121
 Milgrom, J., 214
 Millard, M., 334
 Miller, C. E., 176
 Miller, D. G., 181, 185
 Miller, F. A., 336, 337
 Miller, F. D., 341
 Miller, G. H., 419, 422
 Miller, I. R., 229
 Miller, J., 21
 Miller, J. E., 333, 334
 Miller, R. G., 23
 Miller, R. L., 65, 67
 Miller, S. L., 20
 Miller, W. F., 391
 Mills, I. M., 292, 298
 Mills, R., 185
 Milne, T. A., 362, 370, 371
 Milstein, C., 433
 Minc, S., 228
 Minegishi, A., 10
 Minter, F. J., 121
 Minton, R. G., 7
 Miorigagi, K., 162
 Mishchenko, K. P., 341
 Miskin, S. F. A., 270
 Mislow, K., 6
 Mitchell, J. C., 437
 Mitchell, N. T., 427
 Mitchell, R. L., 31
 Mitsengendlev, S. P., 67
 Mitsuya, A., 243
 Miyagawa, I., 155, 156, 157
 Miyake, A., 50, 155
 Miyake, Y., 31, 36
 Miyazawa, T., 292, 439
 Mizushima, S., 98, 439
 Mniukh, Iu. V., 217
 Möbius, L., 22
 Moccia, R., 255
 Močník, M., 383
 Modena, G., 23, 269
 Moffitt, W., 164, 264, 273, 441, 442
 Mokhov, N. V., 217
 Molin, Y., 158
 Molinari, E., 144
 Möller, K. D., 341
 Molodov, A. N., 238
 Momose, T., 268
 Monchamp, R. R., 336
 Monfils, A., 256
 Monk, C. B., 180
 Montgomery, L. K., 23
 Montroll, E. W., 91, 174, 412, 413
 Moodie, R. B., 8, 9
 Moore, J. W., 340
 Moore, P. T., 343
 Moore, S., 433
 Moore, T. E., 176
 Moore, W. R., 343
 Morgan, E., 257
 Morgan, J. E., 416
 Morgenstern, W., 240
 Mori, M., 336
 Mori, T., 36
 Moriconi, E. J., 269
 Morita, T., 35, 91, 92, 216
 Morita, Y., 33
 Moriwaki, T., 439
 Morokuma, K., 12, 230, 266, 317, 319, 320, 321
 Morozov, N. M., 425
 Morozova, G. Kh., 335
 Morozova, M. P., 336, 338
 Morpurgo, G., 241
 Morris, G. C., 267
 Morris, J. C., 342
 Morris, J. P., 335, 336, 371

Morris, R. O., 24
 Morrison, J. A., 333
 Mortimer, C. T., 342
 Morton, J. R., 257
 Moscowitz, A., 447
 Moser, C., 255, 304, 313
 Mosier, B., 229
 Moskowitz, J. W., 417
 Moss, C., 338, 339, 343
 Moss, R. L., 139, 140
 Motizuki, K., 166
 Motoki, S., 268
 Motzfeld, K., 358
 Motzku, F., 68, 69
 Mountcastle, W. R., Jr., 268
 Mrozowski, S., 261, 262
 Muccini, G. A., 404, 406
 Muettterties, E. L., 153, 334
 Muftaqchiev, B., 239
 Muha, G. M., 181
 Muirhead, H., 433
 Muiskev, K. S., 67
 Mukhedkar, A. J., 208
 Mukherjee, A., 160
 Mukherjee, L. M., 180
 Mukherji, A., 152
 Mukhtarov, Ch. K., 208
 Müller, A., 139
 Müller, E., 182
 Müller, F. H., 59, 64, 68, 69
 Müller, N., 308, 314
 Müller, R., 268
 Müller, R. H., 232, 332
 Müller, W., 232
 Mullhaupt, J. T., 330, 334
 Mulliken, R. S., 200, 211, 255, 260, 271, 273, 308, 309, 314, 318
 Mullin, J. B., 31, 33
 Münster, A., 75, 84, 90, 217
 Murad, E., 417
 Mural, T., 309, 310
 Murakami, K., 52
 Murata, H., 336, 342
 Murbach, W. J., 342
 Murdoch, E. G., 334
 Murphy, R. B., 7
 Murray, B. B., 182
 Murray, G. R., 154
 Murray, J. D., 385
 Murray, P., 372
 Murrell, J. N., 270, 273
 Murthy, N. S., 259
 Mutai, K., 269
 Muth, B. R., 268
 Myers, H. W., 337
 Myers, R. J., 291
 Myerson, A. L., 426
 Myhre, P. C., 12, 13
 Myseis, K. J., 186

N
 Naboikin, Iu. V., 270, 273

Nachtrieb, N. H., 107-24; 110, 112
 Nagagama, M., 246
 Nagai, K., 450
 Nagakawa, Y., 31
 Nagakura, S., 10, 211, 260, 271, 317, 318
 Nagamatsu, K., 61, 63
 Nagasawa, M., 362
 Nagata, C., 11, 12, 266, 313, 314, 315, 316, 317, 319, 321
 Nagel, K., 246
 Naghizadeh, J. N., 8
 Nair, P. M., 308
 Nair, V. S. K., 172
 Nakada, K., 162
 Nakagawa, I., 295
 Nakajima, T., 54
 Nakaniishi, K., 330
 Nakhamovich, A. S., 268
 Nancollas, G. H., 172
 Naraba, T., 62, 155
 Narasimham, K. V., 275
 Narasimhan, P. T., 151
 Nardelli, G., 111
 Narsappaya, N., 35
 Näsänen, R., 335
 Nasarova, M. V., 336
 Nasuhoglu, R., 208
 Natta, G., 65, 67, 74
 Naumann, A. W., 176
 Naumann, H. V., 180
 Naumov, V. A., 365
 Navias, L., 369
 Nayak, B., 15
 Nechitailo, N. A., 217
 Nedumov, N. A., 365
 Neihof, R., 385
 Nekrassov, L. I., 237, 244
 Nelson, F., 383, 384
 Nelson, K. H., 30
 Nelson, L. S., 258, 426
 Nelson, T., 338, 339, 343
 Nesbet, R. K., 255
 Nesmeyanov, A. N., 334, 335, 337, 338, 371
 Nesterov, V. N., 335, 371
 Neuberger, A., 455
 Neurath, H., 433
 Neven, L., 288
 Nevitt, T. D., 404
 Newell, G. S., 163
 Newgard, J. J., 371
 Newing, R. A., 50
 Newkirk, H. W., 337, 365
 Newton, A. S., 405, 428
 Ney, P., 39
 Nezhevenko, M. A., 402
 Nichkov, I. F., 337
 Nicholls, G. D., 41
 Nicholls, J. A., 341
 Nicholls, R. W., 259, 274
 Nicholson, G. R., 341
 Nielsen, A. H., 288
 Nielsen, E. S., 42
 Nielsen, H. H., 285, 286

Nielsen, L. E., 60, 76
 Nielsen, S. O., 454
 Nigam, R. K., 218, 340
 Nightingale, E. R., Jr., 184
 Niira, K., 309
 Nikitin, A. N., 270
 Nikitin, E. E., 413
 Nikitin, O. T., 335
 Nikitine, S., 275
 Nikolaeva-Fedorovich, N. V., 229, 232, 241
 Nikoletić, M., 15
 Nikolskaya, A. V., 335
 Nikurashina, R. V., 217
 Nishikawa, M., 334
 Nishimoto, K., 266
 Nishioka, A., 62, 64, 155
 Nitta, I., 342
 Noether, H. D., 69
 Nolle, A. W., 155
 Nomura, T., 385
 Norcross, B. E., 18
 Noriss, R., 371
 Norland, K. S., 443, 444, 447, 450
 Norris, J. A., 294
 Norris, T. H., 188
 Norrish, R. G. W., 414, 418, 426
 Norrish, R. S., 209
 North, A. C. T., 433, 434, 445, 452
 Nortia, T., 274
 Norwood, M. H., 338
 Nosworthy, J. M., 399
 Novák, J., 341, 342
 Novikov, B. V., 275
 Novikov, G. I., 336, 339, 371
 Novikov, I. L., 206
 Novikov, M. M., 258
 Novikov, S. S., 242
 Novoselova, A. V., 335, 371
 Nowak, E. S., 333
 Nowick, A. S., 108
 Noyce, D. S., 17, 153
 Noyes, R. M., 186, 395
 Noyes, W. A., Jr., 417, 427
 Nozières, P., 398
 Nuridzhanian, K. A., 268
 Nürnberg, H. W., 241, 243
 Nutchell, R. W., 155
 Nuttall, R. L., 331
 Nyholm, R. S., 265
 Nyman, C. J., 178, 187
 Nyquist, R. A., 340

Ob
 Oberemok-Yakubova, A. P., 342
 Oberst, H., 64
 O'Brien, R. E., 6
 Obukhova, E. M., 221

AUTHOR INDEX

Ockerman, J. B., 244
 O'Connor, A., 71
 O'Connor, W. F., 269
 Oesterling, R. E., 23
 Oeveren, W. J., 371
 Ogawa, H., 384
 Ogawa, I. A., 17
 Ogawa, S., 163
 Ogston, A. G., 436
 Oho, J., 334
 Ohse, R., 246
 Ohse, R. W., 246
 Ohtaki, H., 385
 Oishi, Y., 116
 Oka, S., 234, 235, 237
 Okabe, H., 427
 Okabe, K., 272
 Okada, S., 232
 Okamiya, J., 269
 Okamoto, G., 246
 Okamoto, Y., 7
 Okamura, S., 313, 315, 316
 Okano, S., 36
 Okano, Y., 336
 Oki, M., 269
 O'Konski, C. T., 433
 Oksengorn, B., 289
 Olah, G., 1
 Oldham, K. B., 235, 236
 Olsen, C. E., 337
 Olsen, F., 10
 Olson, D. A., 299
 Olsson, S., 12
 Omori, S., 31
 Onak, T. P., 152
 Onaka, R., 275
 Onoprienko, M. I., 273
 Onsager, L., 151
 Onuma, N., 31
 Ooshika, Y., 310
 Oosterhoff, L. J., 210
 Oosterom, J. F., 371
 Opik, U., 264
 Oranskaya, M. A., 336, 371
 Orchin, M., 269
 Ordronneau, C., 16
 Ordynsceva, N. D., 208
 Orgel, L. E., 265, 273
 O'Reilly, D. E., 152
 Orlova, N. D., 208
 Ornstein, L. S., 92
 Orr, C. H., 185
 Orton, B. R., 216
 Osawa, M., 31
 Osborne, D. W., 337
 Oshe, A. I., 242
 Osipov, A. I., 413
 Osipov, O. A., 210
 Osipova, L. P., 206
 Oskam, H. J., 258
 Östlund, G., 38
 O'Sullivan, D. G., 385
 Otaki, T., 129, 130, 131
 O'Toole, J. T., 86, 87
 Ott, J. B., 334
 Ottesen, M., 453, 456
 Oubridge, J. V., 13, 188
 Oudemans, G. J., 207
 Ovander, L. A., 208
 Ovcharenko, I. E., 257
 Ovcharenko, O. N., 114
 Overbeek, J. Th. G., 197
 Overend, J., 288, 291
 Owaki, M., 62, 155
 Owen, B. D. R., 384
 Owen, H. R., 38
 Owens, B. B., 337
 Ozaki, A., 133

P
 Pace, E. L., 334, 342, 343
 Padden, F. J., Jr., 71
 Padgett, A., 260
 Padhye, M. R., 267, 268
 Page, F. M., 371
 Pais, A., 89
 Pake, G. E., 49, 159, 166, 182
 Paldus, J., 235
 Paleolog, E. N., 245
 Palik, E. D., 331
 Palmer, D. W., 120
 Palmer, J., 154
 Palmer, T. F., 428
 Palou, J., 266
 Pan, K., 335
 Panar, M., 23
 Panchenkov, G. M., 385
 Pande, D. N., 275
 Pangarob, N. A., 243
 Pannetier, G., 257
 Panson, A. J., 187
 Pant, D. D., 275
 Pan-tun, Li, 71
 Paolletti, P., 335
 Papé, H. M., 177
 Papoušek, D., 334
 Pappalardo, R., 274
 Paridon, L. J., 335
 Pariser, R., 304, 307
 Parker, A. J., 21
 Parker, C. O., 334
 Parker, D. J., 155
 Parker, F. R., 85, 93, 97
 Parker, F. W., 288
 Parker, K. D., 439
 Parker, P., 43
 Parker, R. H., 41
 Parks, J. M., 260, 305
 Parodi, J. A., 123
 Parr, R. G., 260, 304, 305, 307, 309
 Parravano, G., 132
 Parrish, R. G., 433, 453
 Parsonage, N. G., 213, 217
 Parsons, R., 228, 229, 242, 243
 Partington, E. J., 339
 Parwel, A., 37
 Pashinkin, A. S., 335, 371
 Pastor, R. C., 158
 Patel, J. C., 266, 267
 Patrick, C. R., 210, 427

Patshevich, I. V., 420
 Patterson, C., 43
 Patterson, C. S., 177
 Patton, J. W., 183
 Paul, A. D., 179
 Paul, M. A., 12
 Paulich, J., 341
 Pauling, L., 1, 290, 312, 433, 434, 446
 Paunicz, R., 6, 266, 319
 Pavlova, E. N., 270, 273
 Peacock, T. E., 266, 308
 Pearson, F. J., 216
 Pearson, R. G., 154
 Pearson, S., 108, 114
 Pearson, W. B., 356
 Peck, R. E., 330, 425, 426
 Pehlke, R. D., 334
 Pekkarinen, L., 271
 Pell, E. M., 117, 221
 Peller, L., 447, 448, 449, 450, 451
 Peloquin, J., 15
 Penner, S. S., 355
 Pentland, N., 243
 Peone, J., Jr., 271
 Peralpo, M., 67
 Perault, A.-M., 320
 Peretti, J., 89
 Pérez-Fernández, M., 235, 238, 244
 Pérez Ossorio, R., 269, 341
 Perfiley, M. V., 337
 Peri, J. B., 144
 Perlmann, G. E., 443, 447, 450, 452, 456
 Pernot, B., 113
 Perrin, M., 144
 Perry, D., 36
 Perry, S. G., 3, 11
 Person, W. B., 210, 298, 299
 Personov, R. L., 268
 Perumov, D. A., 385
 Perutz, M. F., 433
 Pešakov, V. P., 219
 Pesteil, L., 267
 Pesteil, P., 273
 Peter, B. E., 185
 Peter, M., 163, 166
 Peterlin, A., 72, 76
 Peters, A. J., 117
 Peters, B., 35
 Petersen, G. F., 338, 339
 Petersen, R. C., 14
 Peterson, H. J., 1
 Peterson, H. L., 416, 417
 Peterson, M. A., 385
 Petrella, R. V., 334
 Petrii, O. A., 232
 Petrov, A. V., 334, 335
 Petrov, D. A., 118
 Petter, P. J., 207
 Pettersson, A. V., 257
 Pettit, F., 124
 Petz, J. L., 216
 Peyron, M., 274

Pfannenschmid, O., 216
 Philibert, J., 114
 Philipoff, W., 440
 Phillips, D. C., 433, 453
 Phillips, D. L., 400
 Phillips, H. B., 399
 Phillips, L., 420
 Phillips, L. F., 416
 Phillips, N. E., 338
 Phillips, R. C., 357
 Phillips, W. D., 162, 166
 Picciotto, E., 37, 43
 Pick, H. J., 239
 Pick, J., 341, 342
 Pickett, L. W., 308, 314
 Picotti, M., 33
 Pidd, R. W., 371
 Pierce, L., 291, 292, 293, 294
 piebergen, U., 333, 334
 Piez, K. A., 445
 Pikaev, A. K., 369
 Pilar, F. L., 310
 Pilla, A., 332, 338, 339
 Pillai, M. G. K., 331, 341
 Pillow, M. E., 259
 Pimentel, G. C., 275, 341
 Pines, D., 398
 Pines, H., 143
 Piontelli, R., 239, 243, 246
 Piotrowski, E. A., 331, 342
 Pipkin, F. M., 289
 Pirkmajer, E., 76
 Pisarevsky, Yu. V., 259
 Pistorius, C. A., 246
 Pittack, H., 382
 Pitzer, K. S., 99, 154, 196, 211, 255, 260, 308, 356, 357, 358
 Pivovarov, V. M., 208
 Plane, R. A., 178
 Plank, R., 333
 Plante, E. R., 364, 369
 Platas, O., 255
 Platt, J. R., 440
 Platteeuw, J. C., 213
 Platzman, R. L., 389, 390, 391, 392, 403
 Plazek, D. J., 53
 Pleskov, Yu. V., 244, 245
 Plesner, I. W., 110
 Plessert, M. S., 384
 Pliskin, W. A., 129, 130, 143
 Plock, R. J., 440
 Plostricks, J., 152
 Plunkett, M. A., 34, 35
 Plyler, E. K., 285, 287, 288
 Pocker, Y., 14, 15, 178
 Podymov, V. P., 371
 Podol'skaya, N. S., 337
 Pohlke, R., 23
 Poland, D. E., 339
 Polanyi, J. C., 413, 414, 418
 Poli, G., 238
 Poljanovskaja, N., 229
 Pollock, B. D., 370, 371
 Polo, S. R., 293
 Pombo, M. M., 17
 Ponec, V., 144
 Ponomarev, V. D., 335, 371
 Popat, P. V., 229
 Pople, J. A., 87, 152, 206, 265, 266, 304, 320
 Popov, A. N., 383
 Popov, M. M., 337
 Popovkin, B. A., 335
 Popovych, O., 270
 Porter, G., 255, 270, 415
 Porter, G. B., 411, 413, 427
 Porter, R. F., 334, 338, 343, 355, 362, 365, 371
 Porto, S. P. S., 294
 Posener, D. W., 293
 Poshkers, D. P., 343
 Posner, A. S., 72, 76
 Potapov, V. N., 118
 Potemkin, A. Ya., 118
 Potratz, H., 43
 Potratz, H. A., 37
 Poulaert, G., 37
 Pouli, N. J., 221
 Poulsen, R. E., 179
 Pound, G. M., 359
 Pound, R. V., 49
 Povard, V. D., 426
 Powell, R. S., 158
 Powles, J. G., 51, 62, 77
 Pozharskaya, G. V., 335, 337, 338, 371
 Pratt, J. N., 335, 363
 Predel, B., 217
 Prelesnik, A., 154
 Present, R. D., 100
 Pressman, W., 213
 Prettre, M., 144
 Price, F. P., 66, 71, 73, 74
 Price, P. B., 239, 240
 Price, S. J., 427
 Price, S. J. W., 419
 Price, W. C., 210, 276, 299
 Prigogine, I., 90, 100
 Prins, J. A., 65
 Priselkov, Y. A., 371
 Pritchard, G. O., 419, 422
 Pritchard, H. J., 411, 421, 422
 Pritchard, J., 136
 Pritchard, J. G., 10
 Prokhorenko, V. K., 215
 Prosen, E. J., 330, 335, 337, 368, 370
 Prosser, G. S., 210
 Prue, J. E., 181
 Pruet, R. R., 383
 Prugger, H., 267, 268
 Pryce, M. H. L., 264, 265
 Pryor, M. J., 246
 Pshezhetinskii, S. Y., 425
 Pugh, A. C. P., 363
 Pullin, A. D. E., 209
 Pullman, A., 304, 313, 315, 320
 Pullman, B., 304, 313, 315, 320
 Puranik, P. G., 342
 Purcell, E. M., 49
 Purlee, E. L., 153
 Pustil'nikova, S. D., 270
 Q
 Quinn, R. S., 298
 Quistwater, J. M. R., 55
 Quynn, R. G., 69
 R
 Rabinovitch, B. S., 412, 413, 421, 422
 Radford, H. E., 158
 Rafter, T. A., 38
 Rakestraw, N. W., 34, 35, 38
 Ramachandran, G. N., 434, 445, 452
 Ramachandran, J., 8, 272
 Ramakrishnan, A., 84
 Ramaswamy, L., 342
 Rambidi, N. G., 365, 371
 Ramirez, E. R., 185
 Ramsey, D. A., 255-76; 255, 256, 257, 258, 260, 261, 262, 265, 274, 358
 Rand, S. J., 211, 271
 Randall, A. A., 446
 Randall, E., 162
 Randall, M., 356
 Randall, S. P., 370
 Randles, J. E. B., 228, 237, 240
 Rands, D. G., 456
 Rangarajan, S. K., 236
 Rank, D. H., 203, 287, 289
 Ransil, B. J., 260
 Ransom, L. D., 334
 Rao, Bh. S. V. R., 274
 Rao, C. N. R., 8, 154, 272
 Rao, I. A., 267
 Rao, K. N., 180, 285, 286
 Rao, K. S., 288
 Rao, M. N., 274
 Rao, P. T., 257, 258
 Rao, V. R., 267, 275
 Rao, V. S., 370, 371
 Rapp, D., 100, 414, 425
 Raridon, R. J., 383
 Rasch, G., 266
 Raspopin, S. P., 337
 Rastogi, R. P., 218, 340
 Rathbone, P., 420
 Ravikovich, S. D., 221
 Ray, S., 34
 Raz, B., 183, 275
 Razbirin, B. S., 275
 Re, G. D., 266
 Rea, D. G., 208
 Rebbert, R. E., 420
 Record, B. R., 441
 Reddish, W., 54

AUTHOR INDEX

Reddy, S. P., 258
 Redies, M. F., 266, 267
 Ree, T., 97, 98, 317
 Reece, I. H., 184
 Reed, T. M., 207
 Rees, L. V. C., 384
 Reeves, E. M., 259
 Reeves, R. R., 416
 Rehage, G., 66, 67, 70
 Reichel, A., 269
 Reid, R. W., 269
 Reif, L., 13
 Reik, H., 84
 Reilly, C. A., 152, 189, 190
 Reimann, R., 166
 Reimer, L., 239
 Reinen, D., 274
 Reinheimer, J. D., 14
 Reiss, H., 85, 214
 Reiss, R., 275
 Reitz, D. C., 157, 165
 Remsberg, L. P., 404
 Renner, H., 258
 Renner, R., 265
 Rentzepis, P., 335, 368
 Repanai, A., 111
 Resing, H. A., 112
 Retznikskii, L. A., 338
 Revelle, R., 36, 41
 Reynolds, P. W., 129
 Reynolds, W. L., 189
 Reznikov, I. I., 272
 Reznitskii, L. A., 338, 343
 Rezukhina, T. N., 336, 337, 338
 Rhodes, E., 339
 Ricci, F. P., 220
 Rice, F. O., 158, 420
 Rice, M. R., 8
 Rice, O. K., 85, 86, 217
 Rice, S. A., 83, 86, 87, 96, 110, 111, 112, 119, 219, 220, 382
 Rich, A., 445, 452
 Richards, F. A., 38, 42
 Richards, L. E., 334
 Richards, R. A., 29
 Richards, R. E., 59, 151, 152, 154, 180, 211
 Richards, J. H., 152
 Richardson, D. B., 421
 Richardson, E. A., 178
 Richardson, E. H., 288
 Richardson, F. D., 361, 363
 Richardson, J. M., 97, 213
 Richey, H. G., Jr., 17
 Richmond, A., 416
 Riddiford, A. C., 232, 237
 Rideal, Sir Eric, 144
 Riehl, N., 120
 Rieke, J. K., 61
 Rieman, W., III, 385
 Rienäcker, G., 130
 Riesz, P., 2
 Riley, G., 35
 Riley, J. L., 69
 Riley, J. P., 31, 33
 Ringo, G. R., 208
 Rinkens, H., 66
 Ritger, P. D., 359
 Ritschard, W. J., 436
 Rivière, J. C., 266
 Rivolta, B., 239
 Robb, W., 385
 Roberts, D. E., 66, 74
 Roberts, E. M., 163
 Roberts, J. D., 15, 23
 Roberts, J. E., 334
 Roberts, M. W., 139
 Roberts, R. W., 418
 Robertson, D. E., 268
 Robertson, R. E., 3, 5, 6, 8, 184
 Robertson, W. W., 272
 Robie, R. A., 331
 Robinson, C. R., 455
 Robinson, D. 259
 Robinson, D. W., 296
 Robinson, E. A., 187, 188
 Robinson, G. W., 210, 261, 263, 267, 269, 275
 Robinson, J. M., 255
 Robinson, L. B., 203
 Robinson, R. A., 30
 Robinson, R. J., 31
 Robinson, W. K., 336
 Roček, J., 11
 Rockenfeller, J. D., 329
 Rodemich, E. R., 91
 Rodenwald, H. J., 334
 Rodicina, E. N., 338
 Rodionov, A. N., 209
 Roe, D. K., 235
 Roesser, W. J., 360
 Rogers, L. B., 270
 Rogers, M. T., 151
 Rogers, O. C., 180
 Rogers, R. N., 159, 182
 Rohr, O., 340
 Rohrer, J. C., 141
 Roig, A., 450
 Romanet, R., 268
 Romanova, O. V., 216
 Romanow, W. J., 181
 Romer, R., 155
 Ron, A., 6, 319
 Rona, E., 43
 Roothaan, C. C. J., 304, 309
 Roper, D. A., 61
 Ropp, G. A., 11
 Rose, F. W., 340
 Rosen, B., 257, 356
 Rosen, C. L., 363
 Rosenbaum, H. S., 109, 123
 Rosenberg, A. J., 245
 Rosenblatt, G. M., 357
 Rosenblum, L., 342
 Rosenblum, P., 180
 Ross, I. G., 266, 274, 294, 309
 Ross, J., 86, 87, 418
 Ross, M., 94
 Ross, R., 114
 Ross, R. A., 425
 Ross, S. D., 14
 Rosser, W. A., Jr., 425
 Rossini, F. D., 329, 340, 341, 356
 Rossmann, M. G., 433
 Rothblat, J., 402
 Rothberg, G. M., 371
 Rothe, E. W., 198
 Rothschild, Lord, 33
 Rothschild, W. G., 402
 Rott, L. A., 217
 Rotzler, G., 9
 Rousset, A., 270
 Rowell, J. C., 162
 Rowlett, A. L., 259
 Rowlinson, J. S., 93, 204, 339
 Roy, R., 123
 Royer, D. J., 274
 Rubalcava, H. E., 356
 Rubey, W. W., 44
 Rubin, R. J., 413, 414
 Rubin, T., 198, 333
 Rubin, T. R., 188, 328, 334
 Ruck, H., 68, 69
 Rudall, K. M., 439
 Rudd, D. P., 38
 Rudd, F. P., 217
 Rudd, I. F., 52
 Rudnitskii, A. A., 360
 Rudolph, P. S., 406
 Rudzitis, E., 334
 Ruedenberg, K., 310
 Rüetschi, P., 244, 246
 Rush, R. M., 383
 Rushbrooke, G. S., 91, 216
 Russell, D. C., 360
 Russell, W. W., 343
 Ruthemann, G., 398
 Rutherford, T. H., 337
 Ruzicka, D. J., 426
 Ruzinov, L. P., 337
 Ryadneva, L. P., 334
 Rye, R. T. B., 57, 58
 Rylander, P. N., 143
 Rylov, E. E., 67
 Ryvolová, A., 242
 S
 Sacconi, L., 335
 Sachtl, W. M. H., 129, 130, 131, 132, 145, 146
 Sack, R. A., 90, 264
 Sackett, W. M., 31, 37, 43
 Sackmann, H. Z., 217
 Sadò, A., 266, 267, 307
 Sage, B. H., 339
 Sagel, K., 217
 Sagl, T., 31
 Sahini, V. E., 269
 Saika, A., 153
 Saiki, M., 36
 Saines, G. S., 1
 Saito, N., 440
 Saito, S., 54
 Saito, T., 243

Sakai, H., 38
 Sakai, T., 243
 Saki, S., 342
 Sakkounkim, C., 53
 Salem, L., 196, 266, 310
 Salkoff, M., 413
 Salmon, J. E., 381
 Salpeter, E. E., 91, 174
 Salzburg, Z. W., 97
 Samoilov, O. Y., 184
 Sams, J. R., 228
 Samson, Y. U., 186
 Samuel, A. H., 382, 394, 400
 Sanborn, R. H., 335
 Sandenaw, T. A., 337
 Sandler, Y. L., 144
 Sandros, K., 270
 Sandulova, A. V., 119
 Sanger, F., 433
 Sankauer, R. F., 187
 Sapozhnikov, Y. A., 371
 Sarma, J. M. D., 257
 Sartori, G., 241
 Sasisekharan, V., 445
 Satchell, D. P. N., 12
 Sato, N., 246
 Sato, S., 313, 316, 428
 Satoh, T., 73, 184
 Sauer, J., 21, 22
 Sauer, J. A., 51, 52, 56, 57, 58, 61, 62
 Saul, A. M., 370
 Saunders, M., 151, 152
 Saunders, P. R., 53
 Saunders, W. H., Jr., 19
 Savage, W. R., 368, 371
 Savedoff, L. G., 14
 Saville, G., 341
 Savitskaya, E. M., 382, 384
 Saxena, S. C., 201, 221
 Sayre, E. J., 181
 Sazonov, L. A., 337
 Scatchard, G., 176, 186
 Schade, W. J., 417
 Schaefer, H., 6
 Schaefer, T. P., 152, 211
 Schaeffer, G. W., 341
 Schaeffen, J. R., 437
 Schäfer, F., 266, 310
 Schäfer, H., 370
 Schaffer, N. K., 433
 Schaffer, O. A., 38
 Scharf, N. J., 371
 Schay, G., 420
 Scheer, M. D., 363, 414
 Scheffee, R. S., 338, 371
 Scheibe, G., 230
 Schellman, C. G., 444
 Schellman, J. A., 434, 444, 447, 448, 450, 452, 453
 Scheraga, H. A., 433, 434, 440, 448, 451, 453, 454, 456
 Scherba, L. D., 182
 Scherer, J. R., 291
 Scherr, C. W., 310
 Schick, H. L., 334, 369
 Schiff, H. I., 416, 417, 418
 Schildkraut, C. L., 453
 Schiltz, J., 258
 Schindler, R., 242
 Schissel, P. O., 362
 Schlag, E. W., 413
 Schleich, K., 219, 333, 339
 Schmahl, N. G., 371
 Schmalz, E. O., 241
 Schmid, G., 241
 Schmidt, G. M. J., 123
 Schmidt, H., 218
 Schmidt, P. F., 244
 Schmieder, K., 50, 60
 Schmillen, A., 271
 Schmitt, E. E., 443
 Schmitt, R. H., 185
 Schmitz-du Mont, O., 274
 Schmulbach, C. D., 209
 Schneider, A., 187
 Schneider, F. W., 413
 Schneider, W. G., 152, 154, 211, 290
 Schnell, G., 51, 67, 70
 Schnell, H., 60
 Schnepp, O., 211, 274, 298
 Schofield, F. H., 360
 Schofield, P., 95
 Scholes, G., 400
 Schölkopf, U., 1
 Scholten, J. J. F., 133, 135
 Scholten, P. C., 186
 Schomaker, V., 181
 Schönert, H., 185
 Schonland, D. S., 163, 275
 Schoonmaker, R. C., 343, 362, 370, 371
 Schramm, G., 433
 Schreurs, J. W. H., 159
 Schriesheim, A., 339, 343
 Schubert, J., 41
 Schubert, W. M., 7, 272
 Schug, J. C., 153
 Schuit, G., 137
 Schuldiner, S., 243
 Schuler, R. H., 162, 400, 404
 Schuller, F., 209, 289
 Schulman, R. A., 141
 Schultz, L. H., 340
 Schultze, H., 436
 Schulz, M., 335
 Schumacher, H., 198
 Schumacher, H. J., 424, 426
 Schurz, J., 268
 Schuur, G., 71
 Schwab, G. M., 129, 137
 Schwabe, K., 233, 246
 Schwartz, H. C., 453
 Schwarz, H. A., 400, 401, 402
 Schwarz, W. M., Jr., 183
 Schwarzkopf, P., 356
 Schwarzl, F., 51
 Schwinger, J., 95
 Scott, D. W., 330, 340
 Scott, F. L., 23
 Scott, G., 162
 Scott, J. M. W., 6, 184
 Scott, R. L., 218
 Scouloudi, H., 433
 Searcy, A. W., 336, 355, 358, 359, 362, 363, 364, 371
 Searies, S., Jr., 211
 Sears, G. W., 369
 Sebba, F., 132, 136
 Sederholm, C. H., 153
 Seeds, W. E., 70
 Seeger, A., 111, 121
 Schon, A. H., 423
 Seidel, G., 221
 Seifer, G. B., 179
 Seifter, S., 455
 Seipt, M., 244
 Seiter, H., 239
 Sela, M., 435, 436, 437, 438, 443, 444, 445, 446, 447, 450, 452, 455, 456
 Selivanova, N. M., 335, 338, 342
 Selke, W. A., 338
 Selman, S., 1
 Semenenko, K. N., 371
 Semenov, G. A., 337, 371
 Semenow, D. A., 15
 Senin, M. D., 337
 Sepráková, M., 341
 Sergienko, S. R., 270
 Serravalle, G., 246
 Serrins, R. B., 337
 Seshagiri Rao, B., 267
 Severiens, J. C., 117, 118
 Shakhtakhtinskii, M. G., 335, 371
 Shalitin, Y., 436, 437
 Shanina, L. T., 243
 Shapiro, I., 152, 343
 Sharman, S. H., 15
 Sharrah, P. C., 216
 Sharupin, B. N., 336
 Shashkov, Yu. M., 117
 Shavitt, I., 198, 414
 Shaw, B. A., 216
 Shaw, R., 420
 Shaw, T. H., 33
 Shchukarev, S. A., 336, 337, 371
 Sheard, F. W., 221
 Sheft, L., 356
 Sheindlin, A. E., 333
 Shekhammet'ev, R. I., 275
 Sheldon, E., 243
 Sheldon, R. P., 40
 Sheppard, N., 143, 151, 152, 208, 230
 Shergina, N. I., 268
 Sherma, J. A., Jr., 385
 Sherman, J., 446
 Sherman, W. F., 210, 299
 Sherwood, A. G., 428
 Shewmon, P., 119
 Shida, S., 158, 162, 428

AUTHOR INDEX

Shield, L. S., 343
 Shigematsu, T., 31, 33
 Shilrain, E. E., 333
 Shimanouchi, T., 292, 439
 Shimida, T., 31
 Shimizu, H., 152
 Shimizu, K., 342
 Shiner, V. J., Jr., 3, 5, 8
 Shingu, H., 11, 313, 315
 Shim, R. D., 333
 Shinohara, K., 158
 Shinohara, Y., 57
 Shipek, C. J., 39
 Shirai, T., 334
 Shirley, D. A., 338
 Shkodin, A. M., 188
 Shlygin, A. I., 242
 Schneider, V. A., 338
 Shomate, C. H., 336, 342
 Shoosmith, J., 260, 261
 Shooter, E. M., 434, 435
 Shore, V. C., 433
 Short, D. J., 269
 Shostenko, Yu. V., 384
 Shpol'skii, E. V., 268, 270
 Shropshire, J. A., 186
 Shtern, V. I., 420
 Shugar, D., 456
 Shuler, K. E., 412, 413
 Shuler, W. E., 182
 Shulka, R. P., 384
 Shull, H., 309
 Shulman, R., 166
 Shuskus, A. J., 155, 156
 Shuttleworth, R., 335
 Shuvalova, E. V., 209
 Sianesi, D., 74
 Sibbing, E., 370
 Sicre, J. E., 424
 Sidorov, L. N., 362, 371
 Sieben, P., 371
 Siebert, A. R., 343
 Siegel, S., 158
 Sigmund, F., 437
 Silberberg, I. H., 332
 Sillen, L. G., 31
 Silman, H. I., 438
 Silver, M. S., 15, 17
 Silverman, S., 391
 Silvestri, V. J., 343
 Slividi, A. I., 154
 Slimanov, Yu. P., 336, 371
 Simard, G. L., 342
 Sime, R. J., 336, 343, 363, 371
 Simet, L., 433
 Simkin, D. J., 330
 Simmons, M. C., 421
 Simmons, R. O., 108
 Simon, L., 332, 339
 Simonetta, M., 266, 268, 269
 Simons, J. P., 414, 427
 Simons, M., 219
 Sims, C. T., 360
 Sinanoğlu, O., 99, 358
 Sinfelt, J. H., 141
 Singh, I. S., 270
 Singleton, J. H., 139
 Singwi, K. S., 208, 215
 Sinha, S. K., 152
 Sinhasen, J., 33
 Sinke, G. C., 329, 341, 356
 Sinnott, K. M., 53
 Sinochkin, Yu. D., 385
 Sinyakovska, S. I., 275
 Sipitanos, C., 273
 Sirotkin, G. D., 340
 Siryatksaya, V. N., 425
 Sison, B. C., 240
 Sjolander, A., 208, 215
 Skell, P. S., 17
 Skinner, G. B., 425, 426
 Sklar, A. L., 304, 309
 Sklyarenko, S. I., 186
 Skolnik, S., 158
 Skopintsev, B. A., 34, 42
 Skorcz, J. A., 183
 Skorikov, G., 287, 289
 Skuratov, S. M., 335, 337, 338, 339, 342
 Slabaugh, W. H., 343
 Slater, N. B., 411, 413, 414
 Sleppy, W. C., 421
 Slichter, C. P., 108, 163, 165
 Slichter, W. P., 51, 53, 62
 Sloan, G. J., 162
 Slomp, G., 152
 Slowey, J. F., 34
 Slutsky, L. J., 335
 Smakhtin, L. A., 371
 Smaller, B., 158
 Smetizer, W. E., 124
 Smillie, L. B., 456
 Smirnov, M. V., 337
 Smit, J. van R., 385
 Smit, P. J., 313
 Smit, W. M., 236
 Smith, A. C. H., 202
 Smith, B. L., 207
 Smith, D. F., 268
 Smith, D. G., 33
 Smith, E. B., 85, 88, 212, 218
 Smith, E. L., 440, 453
 Smith, F., 341
 Smith, F. J., 363
 Smith, F. T., 414, 418
 Smith, G. E., 187
 Smith, G. P., 338, 339
 Smith, J. A., 415
 Smith, J. A. S., 60
 Smith, J. F., 371
 Smith, J. M., 334, 339, 340, 341
 Smith, L. L., 176
 Smith, M., 183
 Smith, M. E., 270
 Smith, N. D., 30
 Smith, N. O., 371
 Smith, R. F., 335
 Smith, S., 14
 Smith, W. T., 156, 157
 Smith, W. T., Jr., 177
 Smithies, D., 402
 Smoluchowski, R., 120
 Smoot, C. R., 14
 Smythe, R. L., 371
 Snavely, E. S., 246
 Snee, R. A., 18
 Snider, R. F., 88
 Snow, R. H., 425, 426
 Snowden, P. N., 186
 Snyder, L. C., 265
 Soden, R. R., 274
 Sogo, P. B., 154
 Sokol, P. E., 18
 Sokoloski, E. M., 426
 Sokolov, N. D., 154, 211, 413
 Sokolov, V. V., 371
 Soldano, B. A., 177, 185
 Soliner, K., 385
 Solodovnikov, S. P., 161
 Solomko, V. P., 221
 Solomons, C., 13
 Somayajulu, G. R., 358
 Sommer, A., 335, 368, 370
 Sommer, W., 54
 Sonnenberg, J., 15
 Soskin, M. S., 268
 Southgate, P. D., 117
 Spackman, D. H., 433
 Spainhour, J. D., 18
 Spandau, H., 371
 Spanjaard, C., 320
 Sparnaay, M. J., 197
 Spedding, F. H., 176, 337, 368, 371
 Speiser, R., 371
 Spenadel, L., 140
 Spence, R. D., 166
 Spencer, C. W., 334, 371
 Spencer, M. S., 425
 Sperandio, A., 333, 334
 Speros, D. M., 329, 340
 Spinlers, A., 120
 Spinner, E., 14, 269
 Spiridonov, V. P., 365
 Spiro, M., 180
 Spitsyn, B. V., 371
 Spitzer, W. G., 124
 Spivakovskii, V. B., 181
 Spoel, H., 207
 Spokas, J. J., 108
 Spokes, G. N., 23, 262
 Sponer, H., 270
 Squire, D. R., 97
 Srinivasan, R., 423, 426, 427
 Srivastava, B. N., 202
 Staas, F. A., 221
 Stahanna, M. S., 342
 Stahlmann, M. A., 438
 Stalinaki, B., 155
 Stamm, R. E., 178
 Stamp, A., 269
 Stampfer, J. F., Jr., 337
 Stanek, J., 342

Stanfield, K., 10
 Stanley, W. M., 433
 Stanton, G. M., 8
 Stanton, R. M., 337
 Stapleton, H. J., 163
 Starer, I., 17
 Starik, I. E., 37, 43
 Starkweather, H. W., Jr., 58, 77
 Statton, W. O., 72
 Staubach, K. E., 234
 Staveley, L. A. K., 213, 217
 Staverman, A. J., 51, 64
 Steacie, E. W. R., 419, 422, 423, 427
 Steadly, H., 272
 Steckler, B. M., 269
 Steele, W. A., 94, 218
 Steger, J. E., 342
 Stein, G., 183, 275, 402
 Stein, W. H., 433
 Steinberg, I. Z., 433-57; 443, 444, 445, 446, 447, 450, 452, 455
 Steinemann, S., 240
 Steinitz, R., 356, 372
 Stejskal, E. O., 153
 Stephen, M. J., 159
 Stephenson, J. L., 18
 Stepukhovich, A. D., 426
 Sterman, M. D., 452
 Stermitz, F. R., 21
 Stern, D. M., 53
 Stern, K. H., 178
 Stern, M., 245, 247
 Stern, S. A., 330, 334
 Sternheim, G., 246
 Sternlicht, H., 158
 Steven, F. S., 452
 Stevens, B., 270
 Stevens, I. D. R., 14
 Stewart, E. T., 309
 Stewart, J. W., 333, 334, 339, 341
 Stewart, R., 8, 9, 10
 Stiles, M., 23
 Stiles, R. M., 23
 Stillinger, F. H., Jr., 86, 174, 175
 Stimson, V. R., 425
 Stirland, D. J., 246
 Stock, L. M., 12
 Stockmayer, W. H., 185
 Stogryn, D. E., 200
 Stoicheff, B. P., 288
 Stokes, A. R., 70
 Stokes, R. H., 185
 Stolica, N. D., 246
 Storey, G. G., 239
 Storwick, T. S., 339, 340, 341
 Stothers, J. B., 2
 Stottlemyer, Q. R., 154
 Stoughton, R. W., 177
 Stout, J. W., 166, 273, 331, 342
 Stracher, A., 453, 456

Strandberg, B. E., 433
 Stranks, D. R., 333
 Stransk, I. N., 371
 Straumanis, M. E., 240
 Strauss, H. L., 162
 Strauss, S. W., 334
 Strehlow, H., 182, 184, 189, 228, 235
 Streiff, A. J., 340
 Streitwieser, A., Jr., 5, 13, 308, 319
 Strelkov, I. L., 342
 Strelkov, P. G., 335, 340
 Strelow, F. W. E., 363
 Strickland, J. D. H., 34
 Strizhevsky, V. L., 208
 Strobel, H. A., 384
 Strogryn, D. E., 99
 Stromme, K. O., 210
 Strong, R. L., 211, 271
 Stroud, L., 333, 334
 Stryer, L., 435, 447
 Stryland, J. C., 333
 Stuart, H. A., 65, 69, 71, 72, 76
 Stuart, J. D., 255
 Stull, D. R., 329, 356
 Stupochenko, E. V., 413
 Sturtevant, J. M., 448
 Subcasky, W. J., 232
 Sudo, K., 334, 335
 Suess, H. E., 36, 426
 Suga, H., 342
 Sugawara, K., 31, 33
 Sugden, T. M., 371, 416, 418
 Sugihara, T., 36
 Sugiura, Y., 36
 Suh, H., 166
 Suhr, H., 22
 Suhrmann, R., 130
 Sujishi, S., 428
 Sukhotin, A. M., 179, 182
 Sundaram, S., 331, 334, 335, 341
 Sundelof, L., 217
 Sundheim, B. R., 274
 Sunko, D. E., 15
 Sunner, S., 331
 Suryaraman, M. G., 382
 Suslina, L. G., 275
 Susuki, S., 266
 Susz, B. P., 207, 210
 Suszek, F., 331, 334
 Sutcliffe, L. H., 153
 Sutherland, G. B. B. M., 439
 Suttle, J. F., 337
 Sutton, D., 41
 Sutton, H. C., 402
 Suvorov, A. V., 339
 Suzuki, H., 269
 Suzuki, S., 8
 Sverdlova, O. V., 211, 272
 Sverdrup, H. U., 29
 Swain, C. G., 3
 Swalen, J. D., 152, 200, 291, 293
 Swallow, A. J., 389, 404
 Swan, P. R., 60, 69
 Swank, R. K., 399
 Swanson, R. W., 40
 Swanwick, J. D., 343
 Sweeney, W. A., 7
 Sweet, F., 144
 Swenson, C. A., 298, 299
 Swensson, J., 288
 Swinbourne, E. S., 424
 Swinstead, J. M., 363
 Sworaki, T. J., 401
 Sychev, V. V., 333
 Symons, M. C. R., 154, 163, 178, 179, 183, 188, 255, 275
 Sympson, R., 246
 Szent-Gyorgyi, A., 451
 Szwarc, M., 423, 437

T

Taconis, K. W., 219, 221
 Taddei, F., 23
 Taft, R. W., Jr., 7, 9, 10, 11
 Tagashira, Y., 321
 Tager, A. A., 382
 Takahasi, M., 423
 Takayangi, M., 54
 Takeda, M., 153
 Takemoto, T., 61, 63
 Takemura, T., 61
 Talalaeva, T. V., 209
 Tamamushi, R., 235, 238
 Tamaru, K., 130, 134, 147
 Tamplenizza, C., 243
 Tamres, M., 211
 Tamura, M., 330
 Tamura, N., 158
 Tanaka, J., 271, 317, 318, 440
 Tanaka, N., 235, 238
 Tanaka, T., 342
 Tanaka, Y., 262
 Tanford, C., 452, 456
 Tanizaki, Y., 269, 271
 Tannenbaum, H., 342
 Tanner, K. N., 439
 Tatevskii, V. M., 365
 Tatsumoto, M., 41
 Taube, H., 154, 181, 182
 Tausend, Å., 245
 Tawde, N. R., 259
 Taylor, E. H., 364
 Taylor, G. O., 336
 Taylor, H. A., 131
 Taylor, H. S., 127-48; 128, 133, 135
 Taylor, R., 12
 Tebben, A., 370
 Tedoradise, G., 244
 Teegarden, K. J., 275
 Teller, E., 264, 265, 398, 411
 Temkin, M. I., 217

AUTHOR INDEX

Temperley, H. N. V., 86
 Tempest, W., 202
 Ten Seldam, C. A., 199, 203, 333
 Terada, K., 33
 Terenin, A. N., 273
 Tersarkisian, G. S., 270
 Tetenbaum, M., 363, 369, 370
 Tewordt, L., 109, 112
 Tharp, A. G., 336, 371
 Thiele, E., 413
 Thiemke, G., 241
 Thirk, H. R., 231, 246
 Thode, H. G., 38
 Thodos, G., 330, 334, 339, 384
 Thomas, B. R., 17
 Thomas, H. C., 384
 Thomas, M. A., 287
 Thomas, P. J., 423
 Thomas, R. B., 339, 340
 Thomas, S. S., 427
 Thomas, W., 334
 Thompson, A., 188
 Thompson, A. R., 269
 Thompson, D., 17
 Thompson, H. W., 208, 209, 288
 Thompson, P. T., 174
 Thompson, T. G., 30, 31, 33, 34
 Thompson, W. E., 341
 Thomson, T. R., 97
 Thorn, R. J., 275, 363, 368, 369, 370, 372
 Thornton, E., 202
 Thornton, E. R., 3
 Thorson, W., 264
 Thorson, W. R., 295
 Thouvenin, Y., 186
 Thrush, A., 258
 Thürkau, M., 219
 Thurn, H., 51, 67, 70
 Thyagarajan, G., 331, 334
 Tichelhaar, G. W., 112
 Tickner, A. W., 335, 371
 Tidwell, E. D., 285, 287, 288
 Tien, C., 384
 Tiers, G. V. D., 153
 Tilford, S. G., 261, 263
 Till, P. H., 71
 Timofeev, B. I., 335
 Timofeeva, S. N., 34
 Timofeeva, Z. N., 179
 Timrot, D. L., 333
 Tincher, W. C., 261, 263
 Tinoco, L., Jr., 433, 440, 442, 447
 Tischer, R. P., 235, 238
 Titievskaja, A., 229
 Titov, V. S., 385
 Tjebbes, J., 341
 Tobias, C. W., 232
 Tobin, H., Jr., 142
 Toboisky, S., 74
 Tobolsky, A. V., 52, 61, 63, 69
 Toby, S., 427
 Todesco, P. E., 23
 Togoeva, S. Kh., 339
 Tokita, N., 77
 Tolmacheva, T. A., 335, 371
 Tomashov, N. D., 233, 245, 247
 Tomezski, E., 144
 Tomie, Y., 342
 Tompkins, F. C., 124, 136, 138, 140, 146
 Tompson, C. W., 216
 Toor, H. L., 186
 Topchiev, A. V., 420
 Topol, L. E., 334
 Toshev, S., 241
 Tournier, J., 115
 Townsend, J., 166
 Townsend, M. G., 159
 Townsend, R., 340, 341, 342
 Toyama, O., 419
 Trachtenberg, L., 232
 Trambouze, Y., 144
 Trammell, G. T., 156
 Trapnell, B. M. W., 343
 Trapp, O. D., 395
 Travis, N., 257
 Treatis, H. N., 109, 123
 Treibs, W., 269
 Treinen, A., 183
 Tremillon, B., 186
 Trent, F. M., 341
 Tribus, M., 327
 Trimble, R. F., Jr., 189
 Tristram, G. R., 452
 Trivich, D., 240
 Tröber, A., 342
 Trofimov, A. V., 38
 Trombe, F., 356
 Trotman, J., 424
 Trotman-Dickenson, A. F., 415, 419, 420, 421, 422
 Trumpp, G., 190
 Tschernova, G. P., 247
 Tsekhaneskaya, Yu. V., 217
 Tseplyaeva, A. V., 371
 Tsiklis, D. S., 217
 Tsuboi, M., 439
 Tsubomura, H., 211, 271, 273
 Tsuchiya, R., 336
 Tsugita, A., 433
 Tsuji, M., 310
 Tsuji, A., 384
 Tsujikawa, I., 274
 Tsukioka, H., 272
 Tsuno, Y., 7
 Tsuruta, T., 67, 316
 Tsuyuki, H., 438
 Tsuzuki, Y., 268
 Tumbakov, V. A., 337
 Tunitkii, L. N., 257, 258
 Tunitkii, N. N., 384
 Turekian, K. K., 43
 Turian, J. I., 244
 Turnbull, D., 108, 109, 123, 212
 Turner, D. R., 244, 245
 Turner, G. P. A., 269
 Turner, J. C. R., 175, 186
 Turner, J. J., 152, 153, 296
 Turner, R., 288
 Turner, R. E., 219
 Turnovsky-Rubazzevska, W., 242
 Turrell, G. C., 289
 Tutihasi, S., 275
 Tuttle, T. R., 157, 159, 166
 Tye, F. L., 385
 Tyler, A., 33
 Tyrell, H. J. V., 186
 Tyurin, I. I., 360
 Tyurin, Yu. M., 243
 U
 Ubbelohde, A. R., 123, 201, 339
 Uchijima, T., 385
 Ueda, H., 158
 Ueda, Y., 268
 Uematsu, I., 59, 61
 Uematsu, Y., 59, 61
 Uhlenbeck, G. E., 89
 Uhler, U., 257
 Uhlig, H., 433
 Uhlig, H. H., 233, 246
 Uhlir, A., 244
 Ullrich, A., 268
 Unbehend, M., 70
 Urbach, H. B., 417, 431
 Urbakh, V. Iu., 217
 Urbancová, L., 341
 Urey, H. C., 44
 Usachev, D. N., 240
 Ushenko, I. K., 269
 V
 Vacek, J., 342
 Vagramian, A. T., 240
 Vahlensieck, J. H., 271
 Valenta, P., 242
 Valentine, R. C., 433
 Vailev, K. A., 179
 Val'kov, V. D., 247
 Valleau, J. P., 87
 Van Artsdal, E. R., 355
 van Cakenbergh, J., 236
 van Cleeff, A., 213
 Van der Auwera, A., 421
 Van Der Borg, R. J. A. M., 141
 van der Elsken, J., 299
 Van Der Hoek, J. A., 210
 Van der Meij, P. H., 241
 Vanderslice, J. T., 200, 255
 Van der Waals, J. H., 164, 213

van Dijk, H., 328
 Van Duijn, J., 108
 Van Galen, J., 108
 van Geel, W. C., 246
 van Holde, K. E., 186
 van Hove, L., 94, 95
 Van Huong, P., 208
 Vanicheva, L. L., 371
 Van Kley, H., 438
 van Koeveringe, J. L., 258
 van Kranendonk, J., 172, 289, 299
 van Leeuwen, J. M. J., 91, 216
 Van Meerssche, M., 269
 Van Reyen, L. L., 130, 131, 137
 Van Roggen, A., 157
 van Rysselbergh, P., 247
 Van Schooten, J., 230
 Van Ultert, L. G., 274
 Van Valkenburg, A., 290
 Van Vleck, J. H., 50, 264, 265
 Varadarajan, T. S., 268
 Varde, E., 334
 Varekamp, F. H., 201, 333
 Varma, S., 13
 Varwig, J. W., 337
 Vasil'ev, V. P., 180
 Vasil'eva, V. N., 209
 Vasil'kova, I. V., 336, 337
 Vassilevitch, A. A., 136
 Vaughan, P. A., 181
 Vaughan, T. B., 239
 Vaughn, J. D., 334
 Vdovin, J. A., 233
 Vecchi, M., 219
 Vedel, J., 186
 Venables, J. D., 245
 Venkateswarlu, P., 258
 Verbeke, G. J., 417
 Verdier, P. H., 292
 Verlet, L., 216
 Verma, R. D., 257
 Vermilyea, D. A., 231, 239, 240, 246
 Vernon, C. A., 13, 24
 Vershinina, O. A., 42
 Vetryenko, E. A., 371
 Vetter, K. J., 233, 241, 246
 Vetyukov, M. M., 371
 Viasbrud, S. E., 237
 Vidovich, G. L., 246
 Vielstich, W., 237, 244
 Viladkar, B. G., 267
 Vineyard, G. H., 95, 96, 121, 220
 Vinogradov, A. P., 38
 Vinti, J. P., 391
 Visco, R. E., 178, 180
 Vishniac, H. S., 35
 Vlček, A. A., 230, 238, 241
 Vlček, B., 236
 Vodar, B., 203, 208, 209, 289
 Voevodskii, V. V., 158, 161, 426
 Voge, H. H., 142
 Vohra, S. P., 339, 340
 Volk, H., 215
 Vol'kenshstein, M. V., 207
 Volkova, N. M., 339
 von Bünau, G., 390
 von Buttner, H., 36
 von Fredersdorf, C. G., 425, 426
 von Hippel, P. H., 454, 455
 Vonk, C. G., 69
 von Karman, T., 69
 von Laue, M., 69
 Vonnegut, B., 176
 von Stackelberg, M., 243
 von Ubisch, H., 37, 202
 Vorob'eva, R. V., 42
 Voropajeva, T. N., 230
 Voshimura, H., 31
 Voyatzakis, E., 273
 Voznesenskii, S. A., 189
 Vranken, M. N., 53
 Vu, H., 208, 289

W

Wada, A., 440, 441, 443, 454
 Wada, T., 342
 Waddington, G., 328, 333, 334, 335, 341
 Waddington, T. C., 188, 356
 Wagman, D. D., 330, 356, 368, 370
 Wagner, C., 356
 Wagner, C. D., 407
 Wagner, E. L., 310
 Wagner, J. B., 124
 Wahlbeck, P. G., 350, 367
 Wahrhaftig, A. L., 413
 Wainwright, T. E., 84, 85, 88, 212
 Wait, S. C., Jr., 266, 267, 294
 Waite, T. R., 123
 Waldmann, L., 84
 Wales, C. P., 246
 Walfaren, G. E., 188
 Walkley, J., 271
 Walker, E. J., 221
 Walker, L., 163
 Walker, R. E., 202
 Walkley, J., 210, 218
 Wall, R. A., 52, 61, 62
 Wallace, D. C., 337
 Wallace, W. E., 338
 Wallenberger, F. T., 269
 Waller, J. G., 214
 Walling, C., 395
 Wallis, R. G., 441
 Wallouch, T., 38
 Walmsley, S. H., 266, 267
 Walsh, A. D., 255, 263
 Walsh, J. R., 266, 267, 273
 Walsh, P. N., 335, 362, 368, 369, 370
 Walters, D. H., 382
 Walters, W. D., 411-28

Walton, H. F., 382
 Wang, K. C., 371
 Wangersky, P. J., 34
 Wanless, R. R., 38
 Wannagat, U., 420
 Ward, I. M., 59
 Ward, L. G. L., 334
 Ward, R. L., 157, 161
 Waring, A. J., 424
 Warkentin, J., 395
 Warsop, P. A., 263
 Waser, J., 181
 Washington, E. L., 212
 Wasserman, H. H., 152
 Watanabe, H., 152, 310
 Waterman, T. E., 357
 Waters, J. H., 15
 Watson, E. J., 425
 Watson, J. S., 424
 Watts-Tobin, R. J., 228
 Wawzonek, S., 241
 Weaver, E. E., 337
 Webb, M. B., 239, 240
 Weber, E., 433
 Weber, G., 270
 Weber, J., 234, 236
 Weber, M., 165
 Weber, R. E., 452
 Wedler, G., 130, 343
 Weeks, W. T., 285, 286
 Weger, M., 274
 Weidinger, H., 246
 Weigang, O. E., Jr., 211, 272
 Weiland, W. P., 241
 Weil, J., 112
 Weil, K. G., 246
 Weil, J. L., 144
 Weil, M. J., 185, 186
 Weingarten, H., 436
 Weinreb, A., 399
 Weinstock, B., 163, 264, 336, 337
 Weir, C. E., 290
 Weisfeld, L. B., 10
 Weiss, J., 402
 Weiss, R. H., 189
 Weissman, S., 201, 202
 Weissman, S. I., 151-67; 157, 159, 162, 165, 166
 Weisz, P. B., 140, 141, 385
 Weizer, V. G., 109, 110, 111, 112
 Weller, W. W., 336, 338
 Wells, E. J., 294
 Welsh, H. L., 287, 299
 Welvart, Z., 3
 Wendt, H., 182, 184
 Wergelessor, W. M., 241
 Wernick, J. H., 166
 Wertz, C., 111
 Wertz, J. E., 157, 179
 Weser, W., 240
 Wessely, F., 437
 West, P. W., 180
 Westbrook, J. H., 372
 Westenberg, A. A., 202

AUTHOR INDEX

Weston, J. F., 339
 Westrum, E. F., Jr., 330, 336, 337, 340, 342, 343
 Wetlaufer, D. B., 456
 Whalley, E., 10
 Whan, R. E., 274
 Wharton, L., 256
 Wharton, P. S., 152
 Wharton, W. W., 189
 Wheatley, J. C., 220
 Wheeler, D. H., 180
 Wheeler, J. A., 391
 Wheeler, V. J., 383
 Wheland, G. W., 1, 308, 312
 Whiffen, D. H., 155, 156, 157, 208
 Whipple, E. B., 151
 Whitaker, W. W., 36
 White, D., 198, 333, 335, 362, 368, 369, 370
 White, E. F. T., 54
 White, J. L., 355
 White, J. W., 273
 White, R. F. M., 24, 187
 White, W., 228
 White, W. B., 336
 White, W. N., 15, 18
 Whitman, C. I., 358
 Whitman, D. R., 151
 Whittle, E., 419, 420
 Wickman, F. E., 37
 Widom, B., 88, 101, 217, 413
 Widom, J. M., 456
 Wieland, K., 258
 Wieland, T., 437
 Wienecke, R., 100
 Wieneke, A. A., 189
 Wiesenberger, E., 239
 Wiggins, T. A., 203, 287, 289
 Wijnen, M. D., 236
 Wijnen, M. H. J., 420, 421, 422
 Wilbourn, A. H., 67
 Wilburn, H. H., 50, 58, 60, 62
 Wilby, J., 20
 Wilcox, P. E., 453
 Wilen, S. H., 3
 Wilgain, S., 37, 43
 Wilke, C. R., 342
 Wilkins, M. H. F., 70
 Wilkins, R. L., 338, 339, 370
 Wilkinson, G. R., 210, 299
 Wilkinson, K. L., 337
 Wilkinson, P. G., 255, 256, 264
 Will, G., 433
 Willard, J. E., 427
 Willi, A. V., 4
 Williams, E. J., 456
 Williams, G., 178
 Williams, G. H., 1
 Williams, G. I., 216
 Williams, M., 36
 Williams, M. L., 51, 61
 Williams, M. M. R., 274
 Williams, P. W., 34
 Williams, R. L., 205
 Williams, R. R., Jr., 395, 405
 Williams, S. B., 332
 Williams, W. S., 362
 Williamson, K. D., 425
 Wilmshurst, J. K., 334, 337
 Wilson, A. H., 327
 Wilson, C. B., 398
 Wilson, C. O., Jr., 343
 Wilson, D. J., 411, 412, 413
 Wilson, E. B., Jr., 290, 291, 292, 297
 Wilson, G. L., 336, 337
 Wilson, H. R., 70
 Wilson, W., 371
 Winans, J. G., 257
 Winkel, P., 246
 Winkler, C. A., 416, 417, 418
 Winslow, G. H., 275
 Winslow, J. W., 396
 Winstein, S., 14, 15, 16, 17
 Wintle, H. J., 396
 Wirth, H. E., 185
 Wirtz, K., 119
 Wise, H., 425
 Wise, S. S., 335
 Wishnia, A., 154
 Wiesenberger, H., 247
 Witkop, B., 152
 Witt, W. P., 363
 Witten, L., 206
 Wittig, G., 23
 Wittwer, A., 270
 Wnuk, R. J., 417, 431
 Wojcicki, A., 181
 Wojciechowski, B. W., 426
 Wojkowiak, B., 268
 Wojtowicz, J. A., 417, 431
 Wojtowicz, P. J., 174
 Wolf, A. P., 11
 Wolf, K., 50, 51, 60, 67, 70
 Wolfhard, H. G., 356
 Wolfsberg, M., 1, 4, 414
 Wolkers, G. J., 333
 Volkova, L. A., 67
 Wollam, J. S., 338
 Wong, E. Y., 163
 Wood, D. L., 439
 Wood, R. H., 176
 Wood, S. E., 207
 Wood, W. W., 85, 93, 97, 205
 Woodman, A. L., 342
 Woodward, A. E., 51, 52, 56, 57, 58, 61, 62, 437
 Woodward, L., 142
 Woodward, L. A., 180
 Woody, R. W., 442, 447
 Woolf, L. A., 185
 Woolf, P. L., 335, 336, 371
 Woolley, H. W., 99
 Worthington, C. R., 72, 76
 Wrangler, G., 239
 Wright, C. V., 257
 Wright, M. R., 269
 Wright, N., 299
 Wrigley, H. E., 173
 Wu, C. S., 395
 Wu, Y. C., 176
 Wunderlich, B., 66, 69, 77
 Wyatt, P. A. H., 9, 188
 Wyckoff, H., 433, 453
 Wynveen, R. A., 176

X

Xhrouet, E., 100

Y

Yakhontova, L. F., 382, 384
 Yakovleva, P. A., 336, 338
 Yakubov, I. T., 259
 Yakutin, V. I., 257
 Yamada, F., 268
 Yamada, H., 209
 Yamagata, N., 36
 Yamamoto, T., 101, 414
 Yamasaki, K., 385
 Yamashita, S., 271
 Yamatera, H., 271
 Yanari, S. S., 271, 456
 Yang, C. N., 88, 89
 Yang, J. T., 440, 441, 442, 443, 450, 452, 454
 Yang, N. C., 407
 Yankwich, P. E., 2
 Yaron, A., 437, 438, 441, 445
 Yarrington, R. M., 341
 Yarwood, A. J., 427
 Yasuda, K., 272
 Yates, D. C. Y., 143
 Yates, J., 266, 274
 Yates, P., 269
 Yatirajan, V., 35
 Yatsimirskii, K. B., 180
 Yeager, E., 244
 Yguerabide, J., 399
 Yin, T. P., 53
 Yinger, R., 124
 Yokota, K., 61
 Yokozawa, Y., 163
 Yoneda, Y., 385
 Yonezawa, T., 11, 12, 266, 308, 313, 314, 315, 316, 317, 319, 320, 321
 Yos, J. M., 200
 Yoshimura, H., 163
 Yoshitomi, T., 61, 63
 Yoshizawa, S., 232
 Yoshizumi, H., 313
 Yosim, S. J., 334
 Young, C. G., 155, 156
 Young, D. A., 69
 Young, E., 33
 Young, E. J., 40
 Young, J., 433
 Young, L., 246

Young, T. F., 176, 188
Young, W. A., 371
Young, W. G., 15
Younger, P., 257
Yphantis, D. A., 433, 443
Yudin, B. F., 333
Yukawa, Y., 7
Yukhtanova, V. D., 237
Yunker, W. H., 218
Yu-Liang, He, 119
Yurkov, G. N., 358

Z

Zachmann, H. G., 69, 76
Zadorozhnyi, B. A., 273
Zagoruchenko, V. A., 339
Zah, A., 268
Zahradník, R., 268
Zaides, A. L., 70
Zaikin, I. D., 338
Zaitseva, L. S., 202

Zajic, V., 337
Zalkow, V., 339
Zandstra, P. J., 166
Zanker, V., 269, 270
Zaslawsky, J. A., 417, 431
Zatioukai, J., 186
Zaugg, H. E., 181
Zauli, C., 266
Zawidaski, T. W., 177
Zelalars, G. R., 335, 336
Zeffert, B. M., 342
Zeldes, H., 156
Zelinskii, V. V., 272
Zellars, G. R., 371
Zeller, E. E., 371
Zemach, A. C., 96
Zemel, B., 241
Zener, C., 111
Zernicke, F., 85, 92
Zharkova, L. A., 336
Zhavoronkov, N. M., 340
Zhdanov, S. I., 242

Zhmyrev, I. A., 272
Zienau, S., 197
Ziman, J. M., 221
Zimm, B. H., 447, 449, 450
Zinn, J., 296
Zinov'ev, G. N., 342
Zinov'eva, K. N., 219
Zlomanov, V. P., 335, 371
Zubov, V. P., 67
Zubova, G. A., 335, 338
Zubova, N. V., 337
Zumino, B., 92, 94
Zvonkova, Z. V., 210
Zwanzig, R. W., 86, 87, 88, 94, 211
Zweitering, P., 133
Zwerdling, S., 298
Zwick, S. A., 359
Zwolinski, B. J., 325-43
Zykov, W. I., 232

SUBJECT INDEX

A

Acetaldehyde
thermodynamic properties, 341

Acetanilide
calculation of electronic structure, 266

Acetic acid
in sea water, 34

Acetic anhydride
hydrolysis, 10

Acetone
microwave spectrum, 291

perhalo
photolysis, 427

photolysis
mechanism of, 427

Acetone-d₆
photolysis, 427

Acetonitrile
Fermi resonance in, 287

Acetylene
adsorption shifts
with rare gases, 203

chemisorbed
infrared spectrum, 143

infrared spectrum
high resolution, 289

molecular orbital
calculations, 260

nuclear magnetic resonance
solvent effects, 211

Acetylene-oxygen flame
emission spectrum, 262

Acetylglycine N-methylamide
infrared spectrum analysis, 439

Acetylglycine radical
electron spin resonance, 156

Acid halides
infrared studies
of solvent effects, 208

Acidity functions and applica-
tions, 9-11

Acraldehyde
ultraviolet studies, 267

Adamantane
thermodynamic properties, 340

Adsorption
of ions
at electrodes, 228-29

of surface active materials
at electrodes, 229

1-Alanine
thermodynamic properties, 342

Alanine radical
electron spin resonance, 156

Alcohols

decomposition
on nickel-silica catalyst, 142

dehydration mechanism, 11

Aldehydes
thermodynamic properties, 341

Alkali metal halides
vapor pressure studies, 363, 371

Alkali metals
absorption shifts
with added gases, 204-7

Alkaline earth halides
vaporization, 371

Alkaline earths
thermodynamic properties, 328

vapor pressure, 371

Alkane thiols, sulfides, and disulfides
thermodynamic functions of ideal gases, 330

Alkyl cyclopentanes
thermodynamic properties, 340

Alkyl halides
decomposition
on nickel-silica catalyst, 142

elimination reaction of, 20

reaction with silver salts
rate of, 15

solvolysis of, 19

isotope effects, 3, 5, 6, 319

Alkynaphthalenes
thermodynamic properties, 340

Alkyl sulfonates
solvolysis
isotope effects in, 5, 6

Allene
infrared and Raman spectra, 288

Allylic and related rearrange-
ments, 17, 18

tracer studies, 17

Allyl radical
ionization potential, 304

Alpha-particle mass
spectrometer
observation
of ionic intermediates, 406

Aluminum
lattice imperfections in, 108

reactions
in sea water, 39

vapor pressure, 371

Aluminum carbides

vapor pressure studies, 363

Aluminum fluorides
vapor pressure studies, 363

Aluminum oxide
vaporization, 369, 371

Amides
bond order in, 310

α -Amino acids
polymerization of
kinetics and mechanism, 435-37

Ammonia
absorption spectrum, 285

decomposition, 135

excited state, 285

inversion-rotation spectrum, 286

inversion-vibration
spectrum, 286

liquid
nonaqueous solvent for
electrolytes, 186-87

rotational band spectrum, 263

synthesis, 132-36

deuterium isotope effect, 133

thermodynamic properties, 334

ultraviolet absorption, 263

Ammonia-d₃
absorption spectrum, 285

Ammonium ion
infrared intensities, 299

Ammonium nitrate
thermodynamic properties, 334

Anhydrides
hydrolysis
isotope effects, 3

Aniline
emission spectrum, 267

Anilinium ions
m- and p-substituted
ionization, 7

Anthracene
fluorescence, 270

reactivity indices, 315

Anthranil
calculation of electronic
structure, 266

Antimony
isotopic
diffusion in copper, 115

Antimony trichloride and
pentachloride
thermodynamic properties, 334

Argon
Henry's law constant

calculated for benzene
solution, 85
molecular polarizability,
207
solubility
calculated in various
solvents, 214-15
thermodynamic properties,
333
Argon-krypton system
critical point calculation,
218
Aromatic hydrocarbons
carcinogenic activity, 321
Arsenic trioxide
evaporation and condensa-
tion, 371
Arsine
thermodynamic properties,
334
Atomic reactions
combination of atoms,
415-17
excited products from, 418
hydrogen atom removal,
414-15
Azomethane
photolysis, 427
Azulene
calculation
of electronic structure,
266
excitation energy calculated,
306

B

Baker-Nathan order of
reactivity, 7
Barium
degree of relaxation
at lattice vacancies, 109
in sea water, 32, 42
Barium chloride solutions
isopiestic measurements,
177
Barium sulfide
thermodynamic properties,
338
1, 2-Benzanthracene
reactivity indices, 315
Benzene
absorption changes
with added gases, 203
arylation of
isotope effect in, 3
bond energies
calculation of, 304
Davydov splitting, 273
electron energy, 307
dipole moment and
excitation energy, 306
and hexamethylbenzene
transition energy
differences, 266
ionization potential
substituents and, 307

luminescence, 270
phosphorescence, 269
radiolysis, 403, 405
reactivity indices, 315
solid, infrared spectrum,
298
thermodynamic properties,
340
Benzene-d₆
solid, infrared spectrum,
298
Benzene-hexafluorobenzene
complex, 210
Benzenes
n-alkyl
thermodynamic properties,
340
Benzoic acids
m- and p-substituted
ionization constants of, 7
Benzoic anhydride
hydrolysis, 10
Benzonitrile
emission spectra, 267
p-Benzquinone
vibrational analysis, 267
Benzoyl chloride
hydrolysis of
isotope effects, 3
Benzoyl peroxide
decomposition
by irradiation, 399
Benzyl radical
ionization potential, 304
Benzyne intermediates, 22
Beryllium
radioactive
in sea water, 35
thermodynamic properties,
329
Beryllium oxide
vaporization, 371
Beryllium oxide-tungsten
system
vaporization, 369
Beryllium oxide-water system
vaporization, 371
Biacetyl
photo-oxidation, 427
Biphenyl
angle between rings, 269
reactivity indices, 315
thermodynamic properties,
340
Bismuth
overvoltages
at single crystal faces,
233
Bismuth halides
thermodynamic properties,
334
vaporization, 371
Borazole
bond order, 310
calculation
of electronic structure,
266

Boride systems
vaporization of, 370
Boron
isotopes
in sea water, 37
thermodynamic properties,
335
vapor pressure, 371
Boron compounds
thermodynamic properties,
330, 368
Boron trifluoride
interatomic distances, 210
Boron trihydrogen carbonyls
thermodynamic properties,
335
Boron oxides
vaporization, 363, 368
from sea water, 370
Bromine
atoms
reaction with hydro-
carbons, 415
recombination of, 415
isotopes
in sea water, 38
Bromodichlorofluoromethane
thermodynamic properties,
342
Butadiene
trans
dipole moment and
excitation energy, 306
triplet-singlet absorption,
273
1-Butanal
thermodynamic properties,
341
n-Butane
thermodynamic properties,
329
1-Butanol
thermodynamic properties,
341
t-Butanol
acid catalyzed dehydration
mechanism, 425
Butene
adsorption and isomeriza-
tion, 144

C

Cadmium
thermodynamic properties,
329
vapor pressure studies,
363
Cadmium cyanide complexes
discharge mechanism
at electrodes, 238
Cadmium dihalides
thermodynamic properties,
335
Cadmium ion
diffusion
in silver bromide, 115

SUBJECT INDEX

Calcium
degree of relaxation
at lattice vacancies, 109
diffusion
in platinum, 114
thermodynamic properties, 329

Calcium selenide
vaporization, 371

Calcium sulfide
vaporization, 371

Carbohydrates
in sea water, 34

Carbon
diatomic thermodynamic properties, 334
isotopic
isotope effects, 2
satellites in nuclear magnetic resonance spectra, 152
in sea water, 37
vapor
energy of, 358
molecular orbital theory, 357
molecular orbital calculation, 260

Carbon dioxide
molecular orbital calculation for, 260
photolysis, 426
vacuum ultraviolet spectrum, 262

Carbon diselenide
thermodynamic properties, 334

Carbon disulfide
photolysis, 426
thermodynamic properties, 334
vacuum ultraviolet spectrum, 262

Carbonium ions
non-classical
see Nucleophilic substitution

Carbon monoxide
infrared spectrum, 289
molecular orbital and valence bond calculations, 255
radiolysis, 406

Carbon-nitrogen bonds
bond order, 310

Carbon-oxygen
bond order, 310

Carbon oxysulfide
vacuum ultraviolet spectrum, 262

Carbon selenide sulfide
thermodynamic properties, 334

Carbonyl sulfide
thermodynamic properties, 334

Catalysis

dual component, 140
of hydrocarbon cracking, 335
see also Surface catalysis

Ceric sulfate
radiolysis, 402

Cerium
thermodynamic properties, 337

Cesium chloride solutions
isopiestic measurements, 177

Cesium halides
thermodynamic properties, 339

Charge transfer reactions at electrodes, kinetics, 230-34
molecular orbital theory and, 230

Chemical equilibria
calculation
of thermodynamic properties, 98

Chemical kinetics
statistical mechanical approach, 100
see also Kinetics

Chlorine
atoms
exchange with chlorides in solution, 177
isotopes
in sea water, 38

Chlorobenzaldehydes
ultraviolet absorption, 267

Chlorobenzotrifluorides
vibrational assignments, 267

Chlorotrifluoromethane
thermodynamic properties, 341

Chromatography
ion exchange, 385

Chromium
deposition of mechanism, 240
vapor pressure, 371

Chromium halides
vaporization, 371

Chromium hexacarbonyl
thermodynamic properties, 338

Chromium oxide
vaporization, 371

Chromyl dichloride
thermodynamic properties, 338

Chrysene
reactivity indices, 315

Clathrates, 212-14

Cobalt
reactions in sea water, 39, 40

Cobalt amine complexes
thermodynamic properties, 336

Cobalt sulfides

thermodynamic properties, 336

Collagen
hydrolysis
by collagenase, 455
optical rotatory dispersion, 451

Complexes
x-ray structure of, 209

Complex ions
in electrolyte solutions, 180

Condensed phases
spectroscopy of, 298

Copper
alloys
vapor pressure, 371
crystal growth
at electrodes, 239
degree of relaxation
at lattice vacancies, 109
deposition
from ionic solutions, 238-39
diffusion
in Bi_2Te_3 , 118
electromigration
in germanium, 118
evaporated films
adsorption of hydrogen atoms, 136
in sea water, 33
reactions, 39, 40
single crystal
overvoltage at crystal faces, 239
thermodynamic properties, 329, 335

Coronene
triplet state, 164

Crotonaldehyde
ultraviolet absorption and assignments, 267

Crystal growth
electrolytic kinetics of, 231

Cyanogen
polymerization intermediates, 406

Cyclobutane
thermal decomposition rate, 423

Cycloheptanone
photolysis, 427

Cyclohexane
mercury photosensitized reactions, 428
radiolysis, 403-5
thermodynamic properties, 340

Cyclohexanes
n-alkyl thermodynamic properties, 340

Cyclohexylamine
catalytic decomposition, 140

1-Cyclohexyl-1-phenylidodecane

thermodynamic properties, 340
 Cyclooctatetraene anion radical, 162
 Cyclopentadiene calculation of electronic structure, 256
 Cyclopentanes *n*-alkyl thermodynamic properties, 340
 Cyclopropane and derivatives rate of thermal decomposition, 424
 Cyclopropylcarbinyl compounds solvolysis isotope effects in, 15

D

Davydov splitting, 273
 Dense fluids statistical mechanical approach, 90-94
 Deuterium absorption spectrum, 256 rotational and vibrational spectra, 256 in sea water, 37 thermodynamic functions calculated, 96 thermodynamic properties, 133
 Deuterium cyanide infrared studies in solution, 209
 Deuterium oxide see Water, heavy
 Diacetylene triplet-singlet absorption, 273
 Diatomic molecules rotational and vibrational analysis of, 256
 Diazomethane absorption spectrum in flash photolysis, 261
 1, 2, 5, 6-Dibenzanthracene reactivity indices, 315
 Diborane thermodynamic properties, 335
 Diboron dioxide thermodynamic properties, 335
 Diboron trioxide thermodynamic properties, 335
 Dibromochlorofluoromethane thermodynamic properties, 342
 Dichlorodifluoromethane thermodynamic properties, 341

Dichlorotetrafluoroethane thermodynamic properties, 342
 1, 1-Dicyclohexyldecane thermodynamic properties, 340
 Diethylene diamine metal complexes thermodynamic properties, 335
 Difluorodiazine thermodynamic properties, 334
 Diffusion nonelectrolytes in solution, 220-21
 Diiodoethane thermodynamic properties, 342
 Dimercury sulfate thermodynamic properties, 335
 1, cis-3-Dimethylcyclopentane thermodynamic properties, 340
 Dimethylidichlorosilane thermodynamic properties, 342
 Dinitrobenzenes excited states, 268
 Diphenoquinone calculation of electronic structure, 266
 1, 1-Diphenyldodecane thermodynamic properties, 340
 Diphenyl picrylhydrazyl electron spin resonance, 156, 157
 Disilver sulfate thermodynamic properties, 335
 Double layer at electrodes, 228-30 capacity measurements, 228 nonequilibrium conditions, 228 semiconductor-electrolyte interface, 228
 Dysprosium thermodynamic properties, 329 vaporization, 368

E

Effusion method, 358-59
 Electrocrystallization dislocations and, 239-40 inhibition to crystal growth, 240 nucleation rate of, overvoltage and, 239 spiral growth and, 239
 Electrode processes, 227-54 electrical double layer

adsorption of ions, 228-29 adsorption of surface active materials, 229-30 structure of capacity measurements, 228 structure of nonequilibrium conditions, 228 zero point of charge, 229 experimental methods application of isotopes, 237 quasi-stationary methods, 235-36 single transient methods, 234-35 stationary convectional methods, 236-37 film formation, 245-47 kinetics, interpretation of, 237-47 kinetics, theoretical, 230-34 see also Kinetics
 Electrolyte solutions, 171-94 complex ions, 180 ion association, 177 ion solvation, 181 entropy of, 184 measured by cell potentials, 182 nuclear magnetic resonance evidence for, 182 solvation number, 184 nonaqueous solutions, 186-89 laboratory technique, 186 moving boundary method for transport numbers, 187 solvents, 186-88 statistical mechanics of ion interaction, 171-75 chemical vs. physical interpretation, 171 square well model, 173 strong electrolytes entropy of dilution, 176 excess functions for, 175 Harned's rule, 176 transport processes conductance measurements, 185 mobilities of aqueous nonelectrolytes, 186
 Electrolytic hydrogenation, 242
 Electron spin resonance analysis of well resolved spectra, 159 applications to biological systems, 166 calculation of line shape, 159 hyperfine coupling constants, 160 inorganic ions, 162-63 liquid solutions, 158 paramagnetic molecules, 155

SUBJECT INDEX

radicals
in solids, 158
signs
of hyperfine coupling
constants, 157
triplets and biradicals, 163

Electrophilic reactions
aromatic substitution
reactions
halogenation, 13
hydrogen isotope effects
in, 12-13
sulfonation, 13
correlation of rates, 7

Electronic excitation
condensed systems
see Radiation chemistry

Electronic structure and
reactivity
excitation energy and
charge distribution,
303-7

large molecules, 303-11

linear polyenes, 310, 311

polyatomic molecules
calculation of, 266

quantum theory, 303-21

Elimination reactions, 18-21
carbanion vs. concerted
mechanisms, 20

orientation
in E₂ reactions, 19
pyrolytic reactions, 21
transition state in, 18

Emission spectra
predisociation in, 262

Equation of state
calculation of, 85
of sea water, 29

Equilibria
see Rates and equilibria

Equilibrium theory
clathrates, 212-14
free volume theory, 212-14
nonelectrolyte solutions,
212-21
conformal solutions,
218-19
critical phenomena,
216-17
diffusion, 220-21
gas solubility, 214-15
hypernetted chains,
216-17
isotopic mixtures, 218-19
regular solutions, 217-18
scaled particle theory,
214-15
transport theory, 219-20
viscosity and thermal
conductivity, 221

superposition theory and
radical distribution
functions, 215-16

Erbium
vaporization, 368

Ethane

cracking of
isotope effect in, 2

irradiated
ethyl radicals in, 162

mercury photosensitized
reactions, 428

pyrolysis
computer studies, 425

thermodynamic properties,
339

Ethananitrile
thermodynamic properties,
342

Ethanes
substituted
internal degrees of
freedom, 206

Ethanic molecules
rotational barrier in, 290

Ethanol
thermodynamic properties,
341

Ethers
decomposition
on nickel-silica catalyst,
142

Ethylene
chemisorbed, infrared
spectrum, 143

dipole moment and excita-
tion energy, 306

electron energy, 307

radiolysis, 406

shock wave decomposition,
426

triplet-singlet absorption
of, 273

Ethylene diamine metal
complexes
thermodynamic properties,
335

Ethylnylbenzene
thermodynamic properties,
340

Europium
thermodynamic properties,
329

Evaporated films
adsorption
of hydrogen atoms, 136

Excitation energy and charge
distribution, 303

Excitons
from high energy charged
particles, 394

primary energy absorption,
398

F

Faradaic rectification
method
fast electrode reactions
and, 235-36

Fatty acids
in sea water, 34

Ferric ions

electron spin resonance
in glass, 163

spin Hamiltonian
parameters
in AlCl₃·6H₂O, 163

Ferrocene
thermodynamic properties,
343

Ferrous sulfate
radiolysis, 402

Flash photolysis
of diazomethane
electronic transitions in,
261

Fluorescence and
phosphorescence
polyatomic molecules, 269

Fluorine
atom
reaction with hydro-
carbons, 415

Forbidden transitions
effect
of paramagnetic
substances, 273

Formaldehyde
dipole moment and excita-
tion energy, 305, 306

hydrogen removal
isotope effect, 414

ionization of, 305

molecular orbital
calculation, 260

reduction mechanism, 242

thermodynamic properties,
341

Formamide
microwave studies, 297

Formic acid
catalytic decomposition
deuterium isotope effects,
129-32
mechanism, 131

pyrolysis, 424

radiolysis, 402

in sea water, 34

Formyl radical
thermodynamic properties,
341

Free radicals
reactions of, 419-22
hydrogen atom
abstraction, 19-20

Free volume theory, 212-14

Fulvene
dipole moment and
excitation energy, 306

Fundamental constants, 327

Furan
calculation of electronic
structure, 266

G

Gadolinium
thermodynamic properties,
329

vaporization, 368
Gallium
 thermodynamic properties, 335
Gases
 thermodynamic properties
 calculated, 96
Gas phase reactions
 kinetics of, 411-32
Gas solubilities calculated, 215
Germanium
 films
 oxygen adsorption, 138
 oxidation reduction
 mechanisms, 245
 in semiconductor electrode, 244
Germanium halides
 thermodynamic properties, 334
Germanium tetrahydride
 thermodynamic properties, 334
Gold
 evaporated films
 hydrogen atom adsorption, 136
 lattice imperfections, 109
 thermodynamic properties, 329
Glycine
 thermodynamic properties, 342
Glycolic acid
 radical
 electron spin resonance, 156
 in sea water, 34
Graphite
 vaporization, 368

H

Hafnium chlorides
 thermodynamic properties, 337
Halides
 absorption spectra
 of thin films, 275
 aliphatic
 nucleophilic substitution
 reactions, 319
 molecular spectra, 257
Halogenation
 aromatic
 deuterium isotope effect
 in, 13
Halogens
 electrode reactions, 244
Harned's rule
 for strong electrolytes, 76
Heat of combustion
 apparatus and techniques, 331-32
 isothermal calorimeter for, 331

Heat of reaction and equilibria
 table of, 343
Helium
 Henry's law constant
 calculated
 for benzene solution, 85
 solubility calculated
 in argon, 214
 in benzene, 214
 thermodynamic properties, 333
Hemoglobin
 metabolic breakdown, 320
Hexamethyldisilane
 thermodynamic properties, 342
Hexamethylene diisocyanate
 thermodynamic properties, 342
Hexamethylenetetramine
 thermodynamic properties, 342
n-Hexane
 radiolysis, 404-5
Hexatriene
 dipole moment and excitation
 energy, 306
 triplet-singlet absorption, 273
High energy particles
 primary loss spectra, 392
 stopping power, 391-92
 tracks of, 390
 see also Radiation chemistry
High polymers
 see Polymers
High temperature chemistry, 355-80
 molecular dissociation
 energies, 358
 publications, 355-57
 techniques and apparatus
 electron diffraction, 365
 mass spectrometry, 361-62
 molecular beams, 364
 torsion effusion method, 363-64
 transpiration method, 362-63
temperature measurement, 359-61
 optical pyrometry, 360-61
 thermocouples, 360
theory
 effusion method, 358-59
 quantum chemistry, 357-58
 statistical mechanics, 358
 vaporization and
 condensation, 359
vaporization processes, 365-71
 elements, 368
 oxides, 368
 titanium oxygen system, 366
Holmium

vaporization, 368
Hydration equilibria
 isotope effects, 3
Hydrides
 molecular spectra, 257
Hydrocarbons
 cracking
 by catalysis, 385
 inhibited thermal decompo-
 sitions, 426
Hydrogen
 absorption spectrum, 256
 adsorption and desorption
 from surfaces, 144
 chemisorption, 139
 dissociation
 on hot filaments, 146
 electrode reactions, 242-43
 formation in photolysis
 of $H_2O_2-O_2$ mixtures, 426
 isotope exchange
 activation energy on nickel
 surface, 136-37
 mechanism of, 136-37
 on nickel-silica catalyst,
 142
 in proteins and polypep-
 tides, 453-54
liquid
 infrared spectrum, 299
 normal boiling point, 328
 ortho-para
 calculation of excess
 functions, 219
 conversion by silicides,
 145
 exchange rate, 414
 oxidation of
 on gold surface, 131
 rotational and vibrational
 spectra, 256
solid
 infrared spectrum, 299
 Raman spectrum, 299
 thermodynamic functions
 calculated, 96
 thermodynamic properties,
 333
Hydrogen atoms
 removal of, 414-15, 419-20
Hydrogen bonding
 effect
 on absorption spectra, 272
Hydrogen bromide
 infrared spectra, 288
Hydrogen chloride
 absorption shifts
 with added gases, 203
 hindered rotation
 due to nitrogen, 208
 infrared spectrum, 288-89
 effect of added gases,
 temperature, 289
Hydrogen chloride-d
 acidity function, 9
Hydrogen cyanide
 Fermi resonance in, 287

SUBJECT INDEX

infrared spectrum, 289
 in solution, 209
 Hydrogen deuteride
 rotation-vibration spectra, 288
 Hydrogen-deuterium
 equilibrium with HD, 132
 liquid mixtures
 excess functions
 calculated, 219
 Hydrogen electrode, 242-43
 overvoltages on various
 metals, 243
 Hydrogen fluoride
 infrared spectrum with
 added gases, 289
 molecular orbital and
 valence bond calcula-
 tions, 255
 potential energy curve from
 spectral data, 255
 thermodynamic properties,
 333
 Hydrolysis
 acid chlorides, anhydrides,
 and esters
 isotope effects, 3
 Hydrophobic bonds
 in proteins, 457
 Hydroxylamine
 electrolytic reduction, 242
 Hydroxyproline
 in collagen and gelatin, 445
 Hydroxyproline,
 poly-0-acetyl
 mutarotation in, 446, 447
 Hyperconjugation
 effect
 on rates and equilibria,
 7-8
 Hypernetted chains, 216-17

I

Indium
 fusion curve, 332
 thermodynamic properties,
 335
 Infrared dichroism
 instrument for, 439
 Infrared spectroscopy
 isotope-caused frequency
 shifts, 209
 nonelectrolyte solutions,
 108-9
 of poly- α -amino acids,
 438-40
 solvent effects, 209
 Inorganic molecules
 ligand field studies, 273
 Insulin
 hydrogen isotope exchange
 rate, 454
 spectral changes
 on denaturation, 456
 Intensity distribution
 of rotation-vibration

structures, 258-59
 International temperature
 scale, 328
 Iodide ion
 absorption spectrum, 275
 adsorption
 on tungsten films, 139
 Iodine
 atoms
 recombination of, 415
 charge transfer
 in benzene, 211
 charge transfer complexes
 absorption of, 271
 double complex
 with naphthalene, 210
 in sea water, 33
 solvation of, 183
 thermodynamic properties,
 333
 ultraviolet spectrum, 257
 Iodine-1, 4-dithiane
 interatomic distances, 209
 Iodine heptafluoride
 thermodynamic properties,
 333
 Iodine monobromide and
 monochloride
 magnetic rotation spectrum,
 258
 Ion exchange, 381-88
 catalysis, 385-86
 equilibria, 383-84
 inorganic, 384
 isotope separation by, 385
 kinetics of, 384
 membrane phenomena, 385
 molecular sieves, 381
 non-aqueous systems, 384
 organic solvents and, 384
 Ion exchange chromatography
 theory, 385
 Ion exchange resins
 structure of, 381-83
 thermodynamic measure-
 ments on, 383
 Ionic crystals
 diffusion in, 115
 Ionization potential
 calculation of, 307
 Iron
 reactions
 in sea water, 39
 Iron electrode
 passive oxide film on, 246
 Iron halides
 vapor pressure studies,
 363, 371
 Iron oxide
 vaporization, 371
 Isobutene
 radiation induced polymer-
 ization, 406
 Isothermal calorimeter, 331
 Isotope effects
 hydrogen isotope effects
 aromatic halogenation

and sulfonation, 13
 aromatic hydrogen
 exchange, 12
 benzene intermediates, 23
 elimination reactions,
 19, 21
 formaldehyde, hydrogen
 removal, 14
 Friedel-Crafts reaction,
 13
 solvolysis of cyropyl-
 carbinyl compounds, 15
 hyperconjugation and, 5
 nitrogen isotope effects
 elimination reactions,
 19, 21
 primary kinetic effects,
 1-3
 in pyrolysis
 of aliphatic hydrocarbons,
 426
 secondary isotope effects,
 4-6
 solvent isotope effects, 3-4
 in solvolysis
 of alkyl halides, 3, 5, 6,
 319
 thermal conductivity
 of nonelectrolytes, 221
 thermal decompositions
 and, 423
 tunnelling
 in proton transfers, 2
 viscosity and thermal
 conductivity
 of nonelectrolytes, 221

Isotopes
 carbon 14
 in sea water, 35
 tracer studies in benzene
 formation, 23
 separation
 by ion exchange, 385
 study
 of electrode processes
 with, 237
 tritium
 in sea water, 35, 36

Isotopic mixtures
 thermodynamic properties
 calculated, 218-19

J

Jahn-Teller effect, 264

K

Ketene and dideuteroketene
 thermodynamic properties,
 341
 Ketones
 decomposition
 on nickel-silica catalyst,
 142
 Kinetics
 of alkyl halide reaction

with silver salts, 15
of bromine atom reaction with hydrocarbons, 415
of chemical reactions, 100-2
of collagenolysis, 455
effect of structure and medium, 6-9
of electrode processes
charge transfer reactions, 230
crystal growth, 231
deposition and dissolution of metals, 237-40
film formation, 245-47
gas electrodes, 242-44
influence of double layer and adsorption, 231-32
interpretation of, 237-47
passivity and protecting surface layers, 233-34
redox reactions, 240-42
semiconductor electrodes, 232
theory of, 230-34
transport processes, 232
of enzymatic hydrolysis of proteins, 454
of fluorine atom reactions with hydrocarbons, 415
gas phase atomic reactions, 414-19
hydrogen atom removal, 414-15
recombination reactions, 415-17
gas phase free radical reactions, 419-22
gas phase thermal reactions
first order reactions, 422-24
photochemistry in, 426-28
pyrolysis of aliphatic hydrocarbons, 425-26
second order reactions, 424-25
of hydrogen isotope exchange in proteins and polypeptides, 453-54
of ion exchange, 384
isotope effects
primary, 1-3
secondary, 4-6
of mutarotation of poly-L-proline, 446
of pentane isomerization at platinum catalyst, 141
photochemistry and, 426-28
of polymerization of N-carboxy- α -amino acids, 435-37
of proteolysis, 455
of semiconductor electrodes, 244-45
solid state diffusion, 110-20
heterogeneous reactions, 124

homogeneous reactions, 122
irradiation effects in solids, 120-22
point imperfections, 107-10
Krypton
adsorption on iron films, 139
L
Lactic acid
in sea water, 34
Lanthanum trichloride
osmotic coefficients, 176
Large molecules
quantum theory, 303
Lead
activation volume, 112
degree of relaxation at lattice vacancies, 109
single crystal overvoltages at crystal faces, 239
Lead dioxide
anodic crystallization, 231
Lead hydroxide iodide
thermodynamic properties, 335
Lead oxalate
thermodynamic properties, 342
Lead oxide
thermodynamic properties, 335
Lead sulfate
thermodynamic properties, 335
Ligand field theory, 273
Lithium
activation volume, 112
diffusion
in silicon, 117
thermodynamic properties, 338
Lithium chloride solutions
isopiestic measurements, 177
Lithium halides
thermodynamic properties, 338
Lithium hydride
dipole moment, 256
molecular orbital calculation, 255
potential energy curve from spectral data, 255
Lithium oxide
vaporization, 371
Lithium oxide-water system
vaporization, 371
Liquid hydrocarbons
compressibility, 332
heats of combustion, 331
Luminescence

due to high energy particles
decay time, 299
in liquids, 399
Lutecium
vaporization, 368
Lutidines
thermodynamic properties 342

M

Magnesium
thermodynamic properties, 329
Maleic acid
ionization constants in H_2O and D_2O , 4
Malic acid
in sea water, 34
Malonic acid
decarboxylation carbon¹³ isotope effect, 2
Malonic acid radical
electron spin resonance, 156
Manganese
and compounds
thermodynamic properties, 330, 336
reactions in sea water, 39, 40
vapor pressure, 371
Manganous hydride
multiplet splittings in, 256
Manganous ion
electron spin resonance, 163
Marine geochemistry, 29-48
chemical reactions
in the oceans, 39-42
composition of marine environment, 31-39
dissolved organic matter, 34-35
elemental composition, 31-34
radioactivity, 35-37
stable isotopes, 37-39
evolution
of the oceans, 43-44
physico-chemical parameters
colligative properties, 30
equation of state, 29-30
specific heat, 30
thermodynamic functions, 30
rates of sedimentation, 42-43
Mass spectrometry
in high temperature chemistry, 361-62
Matrix studies, 274
Membrane phenomena
in ion exchange, 385
Mercuric cyanide complex
discharge mechanism

SUBJECT INDEX

at electrodes, 238
 Mercurous bromide
 dissociation energy, 258
 Mercurous iodide
 dissociation energy, 258
 Mercury atoms
 photo excited, 428
 Mercury-mercurous ion
 exchange reaction
 in perchlorate solution, 237
 Mesityl chloride
 hydrolysis
 isotope effect in, 3
 Metabolic acid
 thermodynamic properties, 335
 Metals
 deposition and dissolution
 without film formation
 liquids, 237-38
 solids, 238-40
 Methane
 absorption spectra, 287
 mercury photosensitized
 reactions, 428
 molecular polarizability, 207
 pyrolysis, 426
 radiolysis vs. photolysis, 405
 shock wave decomposition, 426
 thermodynamic properties, 339
 Methane-d and methane-d₃
 spectroscopy of, 287
 p-Methoxybenzhydryl acetate
 hydrolysis
 isotope effect, 3
 trans-4-Methoxycyclohexyl-1-tosylate
 solvolysis, 17
 Methyl borate
 thermodynamic properties, 343
 Methylcyclohexane
 dehydrogenation
 kinetics of, 141
 Methylcyclopentane
 thermodynamic properties, 340
 Methylene blue
 reduction at electrodes, 241
 Methylene radicals
 absorption bands, 261
 electronic transitions, 261
 reaction
 with cyclopropane and
 propylene, 412
 Methyl halides
 polarographic reduction of, 230
 Methyl iodide
 radiolysis, 405
 Methyl isocyanide
 thermodynamic properties, 342
 Methylmercuric chloride
 photosensitized decompo-
 sition, 428
 Methyl radical
 addition reactions, 420-21
 formation
 quantum yield of, 428
 ionization potential, 304
 molecular orbital
 calculation, 280
 Methyl trifluoroacetate
 hydrolysis
 isotope effect in, 3
 Microwave spectra
 interpretation of, 290
 Molecular beams, 364
 Molecular dissociation
 energy, 358
 Molecular electronic
 spectroscopy, 255-84
 diatomic molecules, 255-60
 intensities, 258-59
 predissociation, 259-60
 rotational-vibrational
 analysis, 256-58
 theoretical, 255-56
 inorganic molecules, 273-74
 ligand field theory, 273-74
 matrix studies, 274-75
 larger polyatomic
 molecules, 266-73
 effect of hydrogen bonding, 272-73
 effect of substituents, 258-69
 fluorescence and phosphorescence, 269-70
 molecular complexes, 270-71
 solvent effects, 271-72
 steric effects, 269
 simple polyatomic
 molecules, 260-66
 Molecular orbital
 see Quantum theory
 Molecular sieves, 381
 Molecules
 large
 electronic structure and
 reactivity, 303-21
 Molecules
 simple
 high resolution spectroscopy of, 285-89
 Molybdenum
 emissivity, 360
 Molybdenum dioxide
 sublimation, 369
 Molybdenum halides
 thermodynamic properties, 336
 Molybdenum hexacarbonyl
 thermodynamic properties, 336
 Molybdenum oxides
 thermodynamic properties, 336
 Molybdenum silicide
 adsorption and desorption
 of hydrogen, 144
 catalytic properties, 145
 Monte Carlo method, 215
 Myosin
 optical rotatory dispersion, 451
 trypsin digestion, 454

N

Naphthacene
 reactivity indices, 315
 Naphthalene
 Davydov splitting in, 273
 electronic and vibrational
 assignments, 266
 reactivity indices, 315
 thermodynamic properties, 340
 triplet state, 164
 Naphthalenes
 substituted
 thermodynamic properties, 340
 Neodymium
 thermodynamic properties, 337
 Neon
 thermodynamic properties, 333
 Nickel films
 adsorption and desorption
 of hydrogen, 138, 144
 degree of relaxation
 at lattice vacancies, 109
 passivity of, 246
 Nickel sulfide
 thermodynamic properties, 336
 Niobium
 vapor pressure, 371
 Niobium pentfluoride
 thermodynamic properties, 336
 Niodymium
 thermodynamic properties, 329
 vaporization, 368
 Nitric acid
 solutions
 acidity function, 9
 thermodynamic properties, 330, 334
 Nitric oxide
 molecular orbital calcula-
 tion, 260
 photolysis mechanism, 426
 potential energy curve
 from spectral data, 255
 reaction with Cl₂O
 kinetics, 425
 reaction with F₂

mechanism, 425
 Nitrobenzene
 reduction
 electron spin resonance, 161
 Nitro compounds
 cathodic reduction, 242
 Nitrogen
 atoms
 reaction rate with NO, 417
 recombination rate, 416
 band spectrum, 256
 forbidden transition in, 256
 molecular
 chemisorption, 135
 polarizability, 207
 predissociation, 259
 oscillator strength
 distribution, 391
 primary loss spectrum, 392
 thermodynamic properties, 334
 Nitrogen isotopes
 in sea water, 38
 Nitrogen-oxygen bonds
 bond order, 310
 Nitromethane
 molecular orbital calculation, 260
 photochemical decomposition, 420
 thermal decomposition
 first order, vapor phase, 424
 Nitroquinoxoline N-oxides
 carcinogenic activity, 321
 Nitroso compounds
 cathodic reduction, 242
 Nitrous oxide
 vacuum ultraviolet spectrum, 262
 Non-aqueous systems
 ion exchange, 384
 Nonelectrolytes, solutions of, 195-226
 equilibrium theory, 212-21
 conformal solutions and isotopic mixtures, 218-19
 diffusion, 220-21
 gas solubility, 214-15
 hypernetted chains and critical phenomena, 216-17
 regular solutions, 217-18
 scaled particle theory and gas solubility, 214-15
 superposition theory and radial distribution functions, 215-16
 transport theory, 219-20
 viscosity and thermal conductivity, 221
 non-pairwise additivity of potential, 204-7
 corresponding states, 205
 data on rare gases, 204
 internal degrees of freedom, 206
 non-spherical potential, 206
 polarizability, 206
 nuclear magnetic resonance, 211
 pair potentials, 196-204
 long range part, 196
 molecular beams, 197
 second virial coefficients of mixtures, 200
 of pure systems, 198
 spectroscopic method, 203
 transport properties for dilute mixtures, 201
 spectroscopy in solution, 207-11
 infrared, 208-9
 ultraviolet, 210-11
 x-ray structures of complexes, 209-10
 7-Norbornadienyl chloride solvolysis, 16
 Nuclear and electron spin resonance, 151-70
 see also Nuclear magnetic resonance and Electron spin resonance
 Nuclear magnetic resonance applications
 to biological systems, 166
 chemical shifts
 aromatic proton shielding, 152
 fluorine resonance of CF_3PF_4 , 153
 of MF_6^+ ion pairs, 179
 of perfluoroclohexane, 153
 of polytetrafluoroethylene, 62-63
 of polytrifluorochloroethylene, 84
 of tetrafluoromethane, 154
 high polymers, 49
 high resolution spectroscopy
 diamagnetic molecules, 151
 measurements
 activation energy of self diffusion in aluminum, 108
 activation volume of lithium metal, 112
 rates and mechanisms, 153
 relaxation times, 155
 nonelectrolyte solutions, 211
 oxygen-17 resonance in water, 181
 paramagnetic materials, 165
 plasticized polystyrene, 52
 polyamides, 56, 57
 polyethylene, 60
 polyethylmethacrylate, 53
 polymethacrylate, 53
 polymethyleneterephthalate, 59
 polystyrene, 51
 self diffusion coefficients by, 220
 spin Hamiltonians, 151
 spin spin couplings, 152
 measurement by wiggle beat method, 153
 strong electrolyte solutions, 179
 structure and motion in solids, 154
 Nucleation
 rate of overvoltage and, 239
 Nucleophilic substitution at acyl carbon, 24
 benzene intermediates, 22-23
 non-classical carbonium ions, 15-17
 at saturated carbon, 14-17, 18
 at unsaturated carbon aromatic substitution by addition mechanism, 21-24
 at vinyl carbon, 23

O

Octanes
 thermodynamic properties, 339
 Optical pyrometry, 360-61
 Optical rotatory dispersion polyamino acids
 helical configuration, 441-42
 Organic compounds
 in sea water, 34
 Oscillator strength of atoms, 390-91
 Osmium hexafluoride thermodynamic properties, 336
 Oxidation and reduction at electrodes, 240-42
 inorganic systems, 240-41
 organic systems, 241-42
 Oxides
 molecular spectra, 257
 Oxygen
 adsorption
 on germanium films, 138
 atoms
 rate of reaction with organic molecules, 417
 rate of recombination, 416
 charge transfer complexes, 211
 diffusion
 in aluminum oxide, 116

SUBJECT INDEX

diffusion rate
in silicon, germanium, 117

electrode reactions, 243-44

isotopes
in sea water, 38

mechanism of adsorption on germanium surface, 138

normal boiling point, 328

oscillator strength
distribution, 391

potential energy curve
from spectral data, 255

primary loss spectrum, 392

thermodynamic properties, 333

Oxygen electrode, 243-44

Oxygen plasma
properties calculated, 100

Oxygen positive ion
multiplet splittings, 256

Ozone
photolysis mechanism, 426

thermal decomposition, 425

P

Pair potentials
see Nonelectrolytes, solutions

Palladium
thermodynamic properties, 336

Palladium-platinum alloy
vapor pressure, 371

Paraffinic hydrocarbons
aromatization of
mechanism, 143

Paramyosin
optical rotatory dispersion, 451

Passivity and protecting
surface layers
at electrode surfaces, 233-34

n-Pentane
dehydrogenation of, 141
gas phase radiolysis, 405
thermodynamic properties, 329

Pentanes
thermodynamic properties, 339

3-Pentanone-d₁₀
photolysis, 419

Perylene
absorption spectrum, 268
emission spectra, 268

Perfluoro[2-n-butyltetrahydrofuran]
thermodynamic properties, 341

Perfluorocyclohexane
nuclear magnetic resonance, 153

Phenanthrene

reactivity indices, 315

Phenol
oxidation
at platinum electrode, 242

Phenols
substituted
ionization constants, 7

Phosphine
thermodynamic properties, 334

Phosphorescence
polyatomic molecules, 269

Phosphoric acid
nonaqueous solvent
for electrolytes, 188

Phosphorus
thermodynamic properties, 334
α-white
activation volume, 112

Phosphoryl trichloride
thermodynamic properties, 334

Photochemistry
gas phase reactions, 426-28
photochemical reactions, 426-27

photosensitized reactions, 428

Physical organic chemistry
acidity functions, 9-11

electrophilic aromatic
substitution, 11-14

elimination reactions, 18-21

isotope effects, 1-5

nucleophilic substitution
at saturated carbon, 14-18
at unsaturated carbon, 21-24

structural and medium
effects
on rates and equilibria, 6-9

Physical properties of high
polymers, 48-82
see also Polymers

Platinum
chemisorption of hydrogen, 140
thermodynamic properties, 329, 335

Platinum black
absorption and desorption
of hydrogen, 144

Platinum catalysis
deactivation
by hydrogen sulfide, 141

Platinum hexafluoride
thermodynamic properties, 336

Polarizability
of nonelectrolytes, 206

Polarography
in study
of electrode processes, 235
of organic redox reactions, 241

Poly-n-alkyl-methacrylates
physical properties, 52-54

Poly-L-alanine
α-form, 434
hydrogen isotope exchange, 454

optical rotatory dispersion
calculated, 442-43

Polyamides
physical properties, 55

Poly-α-amino acids
behavior
in solution, 434
configuration, 438-47
helical configuration, 434
helix-coil transition, 447-51
effect of solvent, 450
partition function for, 449-50
thermodynamic stability, 447-51

infrared and ultraviolet
absorption, 438-40

multichain
synthesis of, 437-48

optical rotation
configuration and, 441-47

as protein models, 434-47

shape
in solution, 440-41

synthesis, 435-38
kinetics and mechanism, 435-37

ultraviolet absorption, 438-40

Polyatomic molecules
coupling of electronic and
vibrational levels, 263

effect of solvents
on absorption spectra, 271

effect of substitution
on spectra, 268

molecular spectra, 260, 266

steric effects
on spectra, 269

Poly-γ-benzyl-L-glutamate
α-form, 434
conformation
in solution, 438, 439

helix-coil
model for proteins, 451

solvent effects on, 450

hydrogen isotope exchange, 454

optical rotatory dispersion, 442-43

shape in solution
properties and, 440-41

Poly-L-butene
physical properties, 61

Polycarbonate films
lamellar structure in, 71

Polycarbonates
physical properties, 59

Poly-p-chlorostyrene
isotactic
non-crystallization of, 74

Polyesters
physical properties, 58-59

Polyethylenes
branched
melting range of, 76
crystalline structure, 68
crystallization of, 73
irradiated
electron spin resonance, 158
melting range and
crystallinity, 76
physical properties, 60

Poly- α -L-glutamic acid
properties in solution, 441
hydrogen isotope exchange
rate, 454
optical rotatory
dispersion, 442-43

Poly-p-halostyrenes
atactic
glass temperatures, 74

Poly-p-iodostyrene
isotactic
noncrystallization of, 74

Polyisobutylene
low tendency to crystallize, 75

Poly-L-leucine
optical rotatory dispersion, 443
solid conformation, 439

Poly-L-lysine
optical rotatory dispersion, 443

Polymers
crystal structure, 67-77
crystallization of high
polymers, 73
degree of crystallization, 69
melting of partially
crystallized polymers, 75
partial crystallization of
high molecular
substances, 69
spherulites, 70, 73
crystal types, 67
physical properties
of fluorine containing
polymers, 62-64
glass structure, 66
molecular mobility, 49-64
nuclear magnetic
resonance, 49
of poly-n-alkyl-
methacrylate, 52-54
of polyamides and
polyurethanes, 55-58
of polyesters and
polycarbonates, 58-60
of poly- α -olefins, 60-62
of polystyrene, 51
of polyvinylchloride, 54-55
relaxation spectrometry,

49, 50
structure
glass transition, 65
melt, 65

Poly-L-methionine
helix-coil
effect of solvent, 450
optical rotation, 447
optical rotatory dispersion, 443
solid conformation, 439

Polymethylenne
physical properties, 60

Poly(methyl-L-glutamate
 α -form, 434

Polypeptides
amide absorption
in infrared and ultraviolet
configuration and, 440
conformation
effect of side chains, 438-39
infrared dichroism, 439
synthetic
infrared and ultraviolet
spectra, 438
proteins and, 433-64
thermodynamic properties, 447-51

Poly-L-proline
cis-trans isomerization, 446
configuration, 445
mutarotation, 445
kinetics, 446
properties
in solution, 441

Polypropylene
physical properties, 62

Poly-L-serine
optical rotatory dispersion, 443

Polystyrene
amorphous, 70
physical properties
atactic and isotactic, 52
plasticized
mobility of, 52

Poly-terphthalic acid-glycolic
ester
melting range and
crystallinity, 76

Polytetrafluoroethylene
copolymers
melting range, 76
crystal lattice, 68
irradiated
electron spin resonance, 158
physical properties, 62
tempered
melting range of, 76

Polytrifluorochloroethylene
physical properties, 63

Poly-L-tryptophan
helix coil
effect of solvent, 450

optical rotatory dispersion, 444

Poly-L-tyrosine
optical rotatory dispersion, 443

Polytyrosyl-chymotrypsin
synthesis, 438

Polyurethane
crystalline structure, 68
laminar films, 72
melting range
and crystallinity, 76
physical properties, 56

Polyvaline
solid conformation, 439

Polyvinylchloride
irradiated
electron spin resonance, 158
physical properties, 54-55

Porphyrin complexes
oxidation reduction, 320

Potassium
diffusion
in platinum, 114
thermodynamic properties, 338

Potassium chloride solutions
isopiestic measurements, 177

Potassium salts
thermodynamic properties, 335

Prasodymium
vaporization, 368

Predisociation
in emission spectra, 262
of diatomic molecules, 259

Proline
in collagen and gelatin, 445

Propane
hydrogen isotope exchange
in, 142
nuclear magnetic resonance, 151

β -Propiolactone
hydrolysis
isotope effect in, 3

Propylene
liquid
radiolysis, 407

Proteins
helix-coil transition theory, 447-51
hydrogen-deuterium
exchange, 443-44
hydrolysis
enzymatic, 454-55
infrared spectra, 439
optical rotation, 452
optical rotatory dispersion, 452

poly- α -amine acids
as models, 434-47

polypeptidyl
multichain, synthesis, 437-38

SUBJECT INDEX

secondary structure, 451-55
enzymatic studies, 454-55
optical rotation, 451-53
and synthetic polypeptides,
433-64

tertiary structure, 455-57
hydrophobic bonds, 457
ultraviolet spectral
changes, 455-57
ultraviolet spectra
denaturation and, 456
hydrogen bonds, 455

Protoactinium
tetrapositive oxidation
state, 163

Pyrazole
calculation
of electronic structure,
268

Pyrene
reactivity indices, 315

Pyridine
electronic transitions, 266

Pyridine N-oxides
antifungal activity, 321

Q

Quantum theory
electronic structure
bond nature, 310
excitation energy and
charge distribution,
303-7
free electron theory,
310-11
ionization potential, 307-8
and reactivity, 303-24
scale parameter, 308-10
spin density, 311
high temperature chemistry,
357-58

reactivity
applications to
biochemistry, 320-21
charge transfer, 318
delocalization theory,
313-20
electrophilic substitution,
317

frontier electron theory,
313
hyperconjugation, 314
index, table of indices,
311-13, 315
nucleophilic substitution,
319

Quinoline
antifungal activity, 321
o-Quinone
electronic structure
calculated, 266

R

Radial distribution functions
of nonelectrolyte

solutions, 215-16
Radical diffusion model,
400-2
Radicals
decomposition of, 421
disproportionation and
combination, 421-22
Radiation chemistry, 389-410
aqueous solutions, 400-3
conductivity model, 396
electronic excitation in
condensed systems,
398-400
luminescence in liquids,
399
thin films, 398
non-aqueous systems
gas phase radiolysis,
405-6
mechanisms, 403-7
radiation induced
polymerizations, 406
radical diffusion model,
395, 400
spur structure, 394-98
excitation due to primary
energy loss, 394
model for gamma
radiation, 395
point heat theory, 397
tracks of high energy
particles, 390-94

Radium
in sea water, 31, 43
Rare earths
thermodynamic properties,
329
vaporization, 368

Rare gas mixtures
thermal conductivity, 202

Rates and equilibria
structural and medium
effects, 6-9
hyperconjugation, 7
linear free energy
relationships, 6
medium effects, 8

Reactivity, 311
see also Quantum theory

Reduction

oxidation and
inorganic systems at
electrodes, 240-41
organic systems at
electrodes, 241-42

Relaxation spectrometry
high polymers, 49-50

Renner effect
examples of, 265
Rotation spectroscopy,
285-302
Rubidium halides
thermodynamic properties,
339

Ruthenium halides
vaporization, 371
Ruthenium-palladium

catalysts, 143
Ruthenium-platinum
catalysis, 143

S

Samarium
thermodynamic properties,
329, 337
vaporization, 368

Sea water
see Marine geochemistry

Sedimentation rates
on ocean floors, 42

Selenophen
electronic structure
calculated, 266

Semiconductor electrodes,
244-45
charge transfer, 232-33

Semiconductors
diffusion in, 115

Silicon
radioactive
in sea water, 35
in semiconductor
electrodes, 244
thermodynamic properties,
334

Silicon dioxide
formation
mechanism of, 124
thermodynamic properties,
334
vaporization, 369

Silver
crystal growth
at electrode, 239
evaporated films
adsorption of hydrogen
atoms, 136

lattice imperfections, 108
thermodynamic properties,
329
vapor pressure, 371

Silver chloride
rotational and vibrational
spectra, 257

Silver iodide
rotational and vibrational
spectra, 257

Silver sulfate
thermodynamic properties,
335

Single crystal electrodes
overvoltages
at crystal faces, 239

Sodium
activation volume, 112
degree of relaxation
at lattice imperfections,
109

diffusion
in platinum, 114
thermodynamic properties,
338
vapor pressure, 371

Sodium azide
radical
electron spin resonance, 156

Sodium formate
thermodynamic properties, 343

Sodium salts
thermodynamic properties, 338

Solid state
kinetics of
see Kinetics, solid state

Solutions of nonelectrolytes
see Nonelectrolytes

Solutions
nonaqueous, 186-89

Solvation
of ions
entropy, 184

Solvation number, 184

Solvent effects
on molecular electronic spectra, 271

Solvolytic
of alkyl halides
isotope effect, 3, 5, 6, 319

of alkyl sulfonates
isotope effect, 5, 6

hyperconjugation effects, 8

secondary isotope effects, 5, 6

of sulfonic esters
isotope effect, 3

Soret effect, 119

Specific heat
of sea water, 30

Spectroscopy
double minimum potentials in, 294-98

of halides, 257, 275

of homonuclear molecules, 256

of hydrides, 257

of inorganic molecules, 273

internal rotation, 290

of larger polyatomic molecules, 266-73

molecular electronic, 255-84

numerical calculations in, 291-94

use of computers, 293

of oxides, 257

of poly- α -amino acids, 438-40

pressure effects in, 289

rotational and vibrational analysis in, 256-58

of solutions, 207-11

of transient species, 275

ultraviolet
proteins, 455-57

vibration-rotation, 285-302

Statistical mechanics, 63-106
books, 83

chemical equilibria, 98-100
gas imperfection,
calculation methods, 99

partition functions, 100

chemical kinetics, 100-2

dense fluids, 90-94
new equations for, 91-92

pair potentials between atoms, 93

free volume theory, 96-98

hard sphere systems, 84-89
binary systems, 87

Monte Carlo method, 85

nonequilibrium properties, 88

transport properties, 86

high temperature chemistry, 358

ion interactions
in electrolyte solutions, 171-75

statistical ensembles, 89

time dependent distribution function, 94-96

thermodynamic crystal data, 205

Stibine
thermodynamic properties, 334

Stilbene
reactivity indices, 315

Strontium
diffusion
in uranium, 115

isotopes
in sea water, 39

Strontium oxide
vaporization, 371

Strontium sulfide
thermodynamic properties, 338

Succinic acid
radical
electron spin resonance, 156

Sulfonation
aromatic
deuterium isotope effects, 13

Sulfonic esters
hydrolysis
isotope effects, 3

Sulfonyl fluoride
thermodynamic properties, 334

Sulfur
compounds
combustion of, 331

isotopes
in sea water, 38

thermodynamic properties, 333

Sulfur hexafluoride
thermodynamic properties, 334

Sulfuric acid
aqueous
heat of formation, 330, 331
nonaqueous solvent
for electrolyte solutions, 187

thermodynamic properties, 334

Sulfuric acid-d₂
acidity function, 9

Superposition theory, 215-16

Surface catalysis, 127-50
in ammonia synthesis, 132-36

evaporated films, 136-40

in formic acid decomposition, 129-32

hydrogen adsorption and desorption and, 144

methods of study, 129

reactions
on dual component catalysts, 140-44

T

Tantalum
emissivity, 360
thermodynamic properties, 329

Tantalum
isotopic
diffusion in germanium, 119

Tantalum pentoxide
vaporization, 369

Tellurium oxide
vaporization, 371

Tellurium selenide
vaporization, 371

Tellurium sulfide
vaporization, 371

Temperature measurement
see High temperature chemistry

Terbium
vaporization, 368

Tetrachloromethane
thermodynamic properties, 341

Tetracyanoethylene
reduction of
radicals in, 162

2,2,4,4-Tetra(deuterio)cyclobutanone
thermodynamic properties, 341

Tetrafluoroethylene-hexa-fluoropropylene copolymers
physical properties, 63

Tetrafluoromethane
thermodynamic properties, 341

Tetramethylsilane
thermodynamic properties, 342

Thermochemistry and thermodynamic properties

SUBJECT INDEX

of substances, 325-54
 apparatus and techniques, 331
 reaction heats and equilibrium, 343
 reviews and correlations, 330
 substance property index, 332
 table, 333-34
 see also Thermodynamics

Thermocouples for high temperatures, 360

Thermodynamic properties of proteins and synthetic polypeptides, 447-51
 of sea water, 29-30
 from spectroscopic investigations, 330
 table of, 333-43

Thermodynamics entropy, 327
 fundamental constants and temperature, 327
 international temperature scale, 328
 third law of, 327
 see also Thermochemistry

Thermodynamic studies of sea water, 30

Thiocresols
 vibrational assignments, 267

Thiophene
 electronic structure calculation of, 266

Thulium vaporization, 368

Tin
 fusion curve, 332
 single crystal overvoltages at crystal faces, 239
 thermodynamic properties, 334

Titanium reactions in sea water, 39

Titanium ions in aluminum chloride hexahydrate spin Hamiltonian parameters, 163

Titanium halides thermodynamic properties, 337

Titanium oxygen system evaporation from solid solution, 366

Toluene pyrolysis, 423 thermodynamic properties, 340

2, 4-Toluene diisocyanate thermodynamic properties, 342

m-Toluidine solid infrared and Raman spectra, 299

Torsion-effusion method in high temperature chemistry, 363-64

Transition elements hexafluorides vibration spectra, 264

Transport processes at electrodes kinetics, 232
 theory of electrolytes, 175, 185-86
 nonelectrolytes, 186, 219-20

Transport numbers by moving boundary method, 187

Trialkylboranes thermodynamic properties, 342

Trichlorofluoromethane thermodynamic properties, 341

Triethylenediamine metal complexes, 335 thermodynamic properties, 342

Trifluoromethane thermodynamic properties, 341

Trifluoromethanethiol thermodynamic properties, 342

Trimetaboric acid thermodynamic properties, 335

1, 3, 5-Trimethoxybenzene hydrogen isotope exchange, 12

Trimethylchlorosilane thermodynamic properties, 342

Trimethylene oxide infrared and microwave spectra, 296
 rotational barrier, 296

Trimethylphosphoro-N-ethylimine thermodynamic properties, 342

1, 3, 5-Triphenylbenzene triplet state, 164

Triphenylene triplet state, 164

Triphenylmethyl chloride solutions in sulfur dioxide equilibrium constant for ion pair formation, 178

Triphenylmethyl radical electron spin resonance, 162

Tropomyosin optical rotatory dispersion, 451

Tungsten emissivity, 360
 hydrogen adsorption on single crystal, 146
 hydrogen desorption, 145

Tungsten halides vaporization, 371

Tungsten oxides thermodynamic properties, 336

Tungsten oxide-water system vaporization, 371

Tunnelling of electrons in redox reactions, 230
 in ion transfer processes, 230

Tryptophan fluorescence, 270

Tyrosine fluorescence, 270

U

Ultraviolet spectroscopy nonelectrolyte solutions, 210-11
 of polyamine acids, 440

Uranium reactive diffusion systems, 113
 in sea water, 43
 self diffusion, 114

α -Uranium thermodynamic properties, 337

Uranium alloys diffusion in, 113

Uranium compounds in sea water, 36, 37, 40

Uranium halides thermodynamic properties, 337

Uranium oxide water system vaporization, 371

Uranium sulfur system vaporization, 371

Uranium trideuteride thermodynamic properties, 337

V

Vanadium oxide vaporization, 371

Vanadium silicide catalytic properties, 145

Vaporization and condensation high temperature chemistry, 359

Vaporization processes see High temperature chemistry, 365-71

Vapor pressure metallic systems and alloys, 371

Vibration-rotation spectroscopy, 285-302
 condensed phases, 298-99
 double minimum potentials in, 294-98
 high resolution studies of simple molecules, 285-89
 internal rotation, 290-91
 numerical calculations in, 291-94
 pressure effects in, 289-90
 Vibronic interactions
 destruction of molecular symmetry by, 263
 in naphthalene, 266
 Virial coefficients
 scaled particle theory and, 214
 Virial coefficient second
 electrolytes, 171-74
 isotopic mixtures, 200
 polyatomic molecules, 200
 pure systems, 198
 unlike molecules, 201
 Viscosity and thermal conductivity
 nonelectrolyte solutions, 221
 Vitamins
 in sea water, 35

W
 Water
 absorption spectrum, 276
 nuclear magnetic resonance effect of paramagnetic ions on, 181
 radiolysis
 intermediates in, 402-3
 mechanism, 401-2
 thermodynamic properties, 333
 track structure, 400
 Water, heavy
 isotope effect
 in hydrolysis reactions, 3, 4
 ionization constants of organic acids and, 4
 in sea water, 37
 secondary isotope effects in solvolytic reactions, 5
 as solvent
 isotope effect of, 3
 Wurtzite-sphalerite transformation
 electron spin resonance, 123

X
 Xenon
 thermodynamic properties, 333

Y
 Ytterbium
 vaporization, 368

Z
 Zinc
 diffusion
 in gallium arsenide, 118
 reactions
 in sea water, 39, 40
 thermodynamic properties, 328
 vapor pressure, 363
 Zinc-aluminum alloy
 catalyst for selective hydrogenation of alkynes to alkenes, 143
 Zinc oxide
 adsorption and desorption of hydrogen, 144
 Zinc selenide
 vaporization, 371
 Zinc sulfide
 vaporization, 371
 Zirconium halides
 thermodynamic properties, 337